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DENVER REGIONAL CAPITAL IMPROVEMENT PROGRAM. VOLUME I. TEXT

Denver Regional Council of Governments

Prepared for:

Department of Housing and Urban Development
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April 1975

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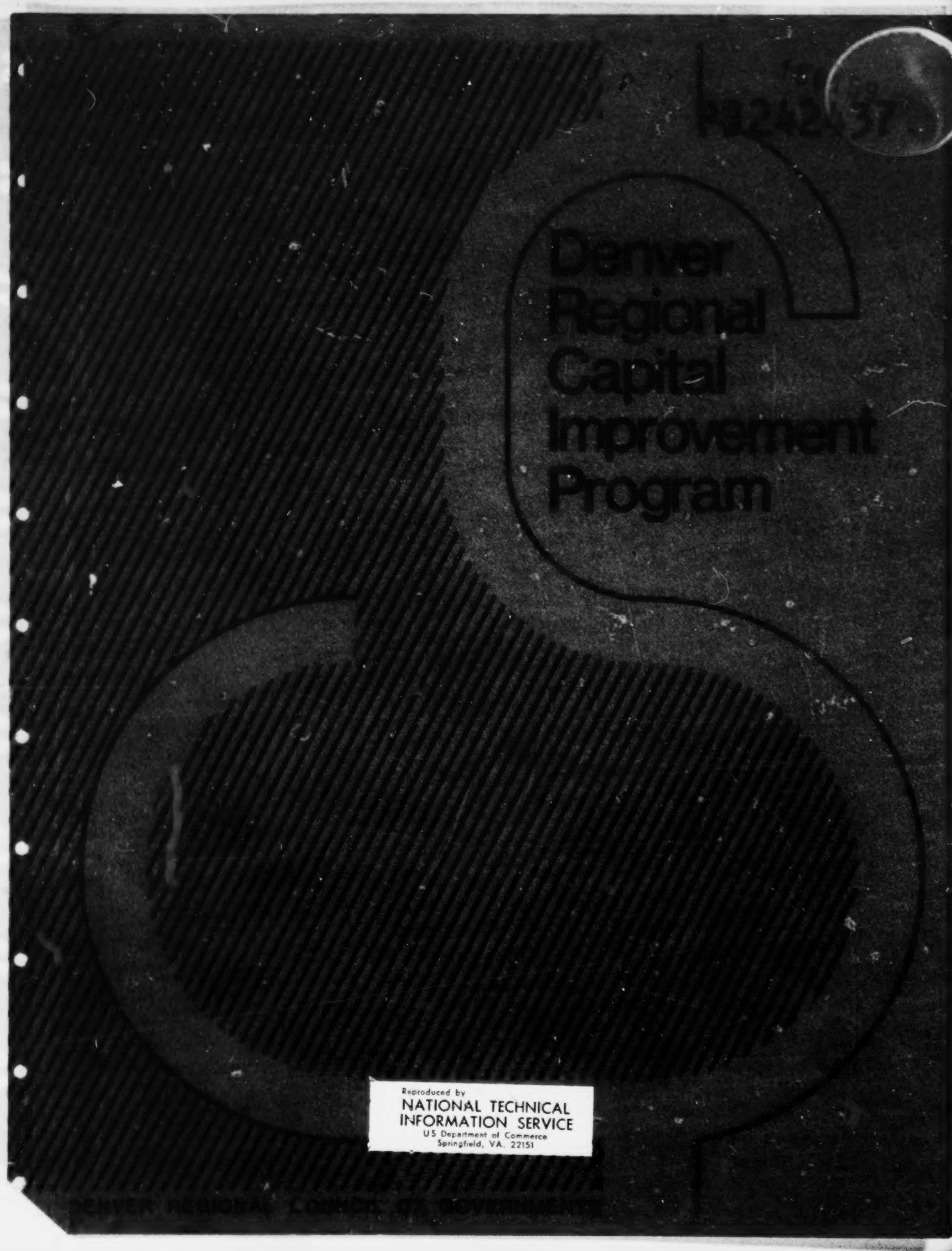

Denver Regional Capital Improvement Program

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THE DENVER REGIONAL
CAPITAL IMPROVEMENT PROGRAM

VOLUME I - TEXT

April, 1975

Prepared by

Planning Division
Denver Regional Council of Governments
1776 South Jackson Street
Denver, Colorado 80210

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Report Number: DRCOG 4-75

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THE REGIONAL CAPITAL IMPROVEMENT PROGRAM

EXECUTIVE SUMMARY

The Denver Regional Council of Governments (DRCOG) has undertaken a demonstration project sponsored by the National Association of Regional Councils, the Department of Housing and Urban Development, the Department of Transportation, and the Environmental Protection Agency to test the technical and political feasibility of developing a workable Regional Capital Improvement Program (RCIP) for the Denver Region. This initial study establishes the methods and procedures necessary for the development of such a program and attempts to accomplish the preparation of the improvement program within this framework.

Very limited information presently exists concerning public capital investment in the region and the RCIP represents an initial attempt to centralize this diverse expenditure data. The project has identified over $500,000,000 of capital improvements which are regional in significance and scheduled to be completed over the next five years. The RCIP includes the functional areas of Water Supply and Distribution, Wastewater Collection and Treatment, Drainage and Flood Control, Parks and Recreation, Transportation (Highways, Public Transit, and Airports), and Housing.

The Regional Capital Improvement Program is comparable in many respects, to a local government's Capital Improvement Program. It brings together regional planning processes, policies, goals and objectives, and program proposals of regional impact in order to focus on and respond to total regional development efforts and needs.

The RCIP is process oriented. The basic objective of a RCIP is to develop a priority project listing which reflects the staged needs, as well as development policies of the region. By stating policy in operational terms, the RCIP could provide the link between regional plans and implementation of those plans. Regional objectives and the improvements necessary to achieve them can be defined in specific terms for the immediate period.

The RCIP process is designed to integrate regional concerns with local capital improvement programming. It establishes priorities for capital expenditures at the regional level and serves as the programming element of the Regional Development Plan. The most direct benefit to local agencies is the opportunity to formulate development policy for the expenditure of public funds in the region.

The feasibility of utilizing a regional capital improvement program to assist in regional policy formulation is examined and evaluated as part of the project. Problem areas are identified and recommendations are made to overcome the problems in possible future programs. Much of the experience gained in the preparation of this initial program is now being applied to the development of the 5-year Transportation CIP. Additionally, the capability for assistance in capital improvement programing has been developed as a result of the RCIP project. A handbook is being developed and a limited amount of staff time will be available for local assistance.

RCIP PREPARATION AND IMPLEMENTATION

One purpose of the demonstration project was to identify the procedures and methodology necessary to develop a RCIP for the Denver Region.

In the past, the adopted Regional Plans for each of the functional systems did not address specific projects. As a result, it was necessary to base the demonstration RCIP on the CIP's of local governments and regional operating agencies. Once this information concerning capital improvement projects throughout the region was centralized, the projects were evaluated to determine whether they were "regional" in significance. This was accomplished by classifying the projects of local governments and regional operating agencies according to a definition of "regionality" which was developed for each functional area.

There are seven basic stages which integrate the preparation and implementation of a Regional Capital Improvement Program:

(1) Preparation and adoption of CIP's by local and regional agencies.

(2) Identification by DRCOG of those capital improvement projects which are considered regional in nature.

(3) Determination of relative project priorities for each functional area (water, wastewater, drainage, parks, transportation, housing) by DRCOG.

(4) Preparation of an Interfunctional RCIP, based on regional policies and funding availability.

(5) RCIP review by DRCOG Advisory Committees, the Program Committee, and Council, with subsequent adoption.

(6) Transmittal of RCIP to local and regional implementing agencies for use in the preparation of future capital improvement programs.

(7) Use of the RCIP by DRCOG in the review of proposed local and regional agency projects for consistency with Regional Plans under the A-95 Project Notification and Review Process.

RCIP SUMMARY

Capital improvement programs have been prepared for each functional system. Because it was not possible to identify specific projects in the adopted Regional Plans, and because all local governments and all regional operating agencies do not prepare CIP's, the functional system capital improvement programs are incomplete. It was not possible to identify all necessary capital improvement needs in the functional systems on a short-term basis.

Table 1 is a summary of expenditures for projects classified as regional in nature. These projects were identified from the CIP's of local and regional operating agencies and classified as "regional" according to the various criteria for each functional system. The staged program would call for an expenditure of $502,000,000 during the 1974-1978 time period, with a substantial portion of the planned expenditures occurring in the initial years of the program.

Table 2 provides a summary of the Final Regional Capital Improvement Program as it might appear if the functional system programs were complete. In order to determine interfunctional priorities, the projects from each of the functional system CIP's are classified into two categories: areawide projects and sub-area projects. It was determined that some "regional" projects may have considerably more potential impact than others. While some projects may impact only one sub-area of the region, such as Southern Jefferson County, or Western Adams County, or Boulder, other projects may involve two or more sub-areas and even the region as a whole.

For the interfunctional analysis, those projects which were judged to impact a single sub-area of the region were grouped together by that sub-area, while those projects determined to be of areawide significance were classified separately. Because the project information in most cases was incomplete, the figures in Table 2 reflect only those projects which were analyzed and classified to illustrate the form of a final RCIP. The example program would call for an expenditure of $155,000,000 on projects classified as areawide in impact. One sub-area was prepared as an example and $43,000,000 was programmed for the South Jeffco Sub-area.

TABLE 1

CAPITAL IMPROVEMENT SUMMARY
(000'S)

REGIONAL PROGRAM SUMMARY		FUNCTIONAL AREA JURISDICTION					
PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	Not Staged	**ESTIMATED TOTAL COST**
LOCAL AGENCIES*							
Water	6,617	10,415	5,878	2,453	2,600	20,525	48,488
Wastewater	1,238	1,562	2,768	2,300	--	9,072	16,940
Drainage	2,362	2,402	1,741	1,487	1,857	1,664	11,513
Parks	4,961	12,808	12,668	5,533	5,391	18,999	60,360
Transportation	7,815	16,975	19,033	14,279	12,464	24,398	94,964
Total	22,993	44,162	42,088	26,052	22,312	74,658	232,265
REGIONAL AGENCIES**							
Water (Denver Water Dept.)	16,583	44,080	49,597	28,515	18,275	24	157,074
Wastewater (MDSDD#1)	14,980	20,190	13,085	12,700	--	--	60,955
Drainage (UDFCD)	4,034	2,253	4,582	3,989	4,280	--	19,138
Parks (State Parks Division)	--	--	--	--	--	697	697
Transportation (RTD)	3,304	11,747	5,436	5,730	5,730	1	31,948
Total	38,901	78,270	72,700	50,934	28,285	722	269,812
TOTAL							
Water	23,200	54,495	55,475	30,968	20,875	20,549	205,562
Wastewater	16,218	21,752	15,853	15,000		9,072	77,895
Drainage	6,396	4,655	6,323	5,476	6,137	1,664	30,651
Parks	4,961	12,808	12,668	5,533	5,391	19,696	61,057
Transportation	11,119	28,722	24,469	20,009	18,194	24,399	126,912
Total	61,894	122,432	114,788	76,986	50,597	75,380	502,077

* Municipalities, Counties, Special Authorities, Local Special Districts
** Regional Special Districts, State

CAPITAL IMPROVEMENT SUMMARY
(000's)

REGIONAL CAPITAL IMPROVEMENT PROGRAM	FUNCTIONAL AREA JURISDICTION						
PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
AREA-WIDE TOTAL*							
Water	6,195	23,922	20,227	6,320	8,025		64,689
Wastewater	14,650	18,025	8,715	12,360			53,750
Drainage							
Parks	697						697
Transportation	7,366	11,747	5,436	5,730	5,730		36,010
Housing							
Total Area-Wide	28,865	53,694	34,378	24,410	13,755		155,146
SOUTH JEFFCO SUB-AREA*							
Water	2,360	2,085	1,922	4,229	1,885		12,481
Wastewater		28	178	340			546
Drainage	20	196	187	325	664	610	2,002
Parks		2,349	3,445	2,237	2,067	3,208	13,305
Transportation	1,192	2,783	2,260	1,995	4,301	1,870	14,401
Housing							
Total South Jeffco	3,572	7,441	7,992	9,126	8,917	5,688	42,735
SUB-AREA TOTAL							
TOTAL**							

*Figures reflect only those projects which have been analyzed and classified to date.

**Total would include all area-wide and sub-area projects in the region.

PROJECT FINDINGS AND CONCLUSIONS

1974 Capital Expenditures

- Public Improvements programmed by local and regional agencies in the six functional areas total $308,540,000 for 1974.

- The apparent principal priorities of the capital expenditures for the region at large are Water and Sewer, Transportation and Parks and Open Space; in that order.

- The apparent principal capital expenditure priorities of the local general purpose governments are Water and Sewer, Parks and Open Space, Highways and Streets; in that order.

- Cities, towns and counties accounted for 48% of the aggregated capital expenditures of the region, and regional agencies for 38% of the public investment.

- Per capita capital expenditures for 1974 are $214, based on the DRCOG estimated metropolitan population of 1,441,500 on January 1, 1974.

Current Capital Improvement Programming

- Of the $308,540,000 in planned expenditures for Capital Improvements in 1974, 53% are by agencies currently using relatively complete CIP's which are prepared on a regular basis.

- 34% of the expenditures are planned by agencies which do not use any form of CIP. The major classes of agencies in this category are State agencies, Special Authorities, and Local Special Districts.

- When only the expenditures of municipalities are compared, 71% of all 1974 municipal capital expenditures in cities were programmed by municipal governments which regularly use CIP's. However, the degree of CIP completeness varies considerably.

Actual vs. Planned Expenditures

- CIP's may not be representative of future expenditures to any significant degree. A straight-line projection of anticipated expenditures based on 1974 levels yields a much higher total than the programmed CIP total. Apparently, much more is actually expended than projected by the CIP's.

- A cursory look at past CIP's confirms a low degree of continuity from year to year. When a CIP is revised, it apparently does not merely entail dropping off the past year and moving planned expenditures ahead one year. In most cases, the entire CIP is revised with little or no comparability to the CIP of the previous year.
- The functional areas with the greatest differences between actual and programmed expenditures are Wastewater, Transportation and Housing.

Regional Capital Expenditures

- Of planned expenditures classified as regional in nature, capital outlays for Water make up the greatest proportion.
- Regional Districts (The Denver Water Board, The Metro Denver Sewage Disposal District, The Urban Drainage and Flood Control District, and The Regional Transportation District) account for well over half (54%) of the planned capital expenditures determined to be regional in effect.
- The Water, Wastewater, and Drainage areas are dominated by expenditures planned by Regional Districts for projects classified as regional. The Transportation area is also expected to show this same regional dominance when the State Highway Department CIP is available, and revised Regional Transportation District cost estimates are taken into account.
- The functional area of Parks is strongly dominated by Municipal expenditures with some participation by Counties and it is likely that this situation will continue.
- Housing improvement programs are not adequately defined at the present and do not provide sufficient information to determine which projects may be considered regional in nature.

Functional Area Priorities

- Relative project priorities have been determined for each functional area and are presented in the individual Functional Area Program sections.

- The functional system capital improvement programs are not complete. Because adopted Regional Plans in the past have not addressed specific project needs on a short-term basis, it was necessary to use the CIP's of local governments and regional operating agencies to collect project data. Because many of these operating agencies do not prepare CIP's, it was not possible to identify all capital improvement needs in the functional systems for the short-term.

Interfunctional Priorities

- The final interfunctional priority criteria is based on service area need, relationship to other services, growth plan consistency, funding availability, and commitment of the agency to the project.

- Relative project priorities have been determined for projects which are clearly areawide in impact and for one example sub-area of the region. Because the project information in most cases was incomplete, the examples were prepared only as an illustration of the form of a final RCIP.

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PREFACE

Volume I of the Denver Regional Capital Improvement Program contains the Text of the RCIP. The Text is presented in two Sections:

- SECTION I of the report presents the methodology of Regional Capital Improvement Program preparation. It includes an explanation of the Technical Process which is applied, as well as a discussion of the Development Stages of RCIP preparation and use. The methodology section also addresses the various interacting levels of governmental authority and responsibility, as they effect implementation of the RCIP.

- SECTION II of the document contains the Regional Capital Improvement Program. A Summary of the overall program findings and conclusions is presented as an introduction to the section. Programs for each of the various Functional Areas (Water, Wastewater, Drainage, Parks, Transportation, Housing) are available, in addition to the integrated Inter-functional Program.

Volume II contains Appendix A (510 pages) of the RCIP. Appendix A is comprised of extensive tables which include project listings and summaries for each of the Agencies in the Denver Region, as well as each of the Functional Areas.

Volume III contains Appendix B (220 pages) of the RCIP. Appendix B includes Project Descriptions, which offer additional data on many of the projects.

Volume IV contains Appendices C, D, and E. The contents of each of these appendices are explained below:

- Appendix C (25 pages) Appendix C presents the adopted Five-Year Capital Improvement Program for Highway Urban Systems Allocations. This represents the first program adopted by the Denver Regional Council of Governments which addresses the concept of Regional Capital Improvement Programming.

- Appendix D (10 pages) Appendix D is an analysis of the RCIP preparation process, and includes recommendations to overcome the difficulties encountered in this initial demonstration project.

- Appendix E (40 pages) Appendix E contains a manual which was designed to assist local governments in developing Capital Improvement Programs.

ACKNOWLEDGMENTS

The Denver Regional Council of Governments gratefully acknowledges the many individuals and agencies who contributed to the preparation of the Denver Regional Capital Improvement Program. This study was made possible only through the cooperation of a number of local, regional, state, and federal agencies.

The program depended on the collection of capital improvements information from all of the local governments, special districts, and regional and state agencies with public capital improvement programming responsibilities in the Denver Region. With few exceptions, these agencies made every effort to supply the DRCOG with all available information, whether it be a five or six-year capital outlay schedule, or an unscheduled listing of future capital projects.

The preliminary organization and continuing coordination of the demonstration project was supervised by the National Association of Regional Councils with participation from representatives of the U. S. Department of Housing and Urban Development, U. S. Department of Transportation and U. S. Environmental Protection Agency. Frequent exchanges of information occurred between the other participating councils of government in the demonstration project: Green River Area Development District, Owensboro, Kentucky; Atlanta Regional Commission, Atlanta, Georgia; Lane Council of Governments, Eugene, Oregon; Ozark Gateway Regional Planning Commission, Joplin, Missouri.

The principal author of the Denver Regional Capital Improvements Program was John M. Gunyou, staff economist, with advice and guidance from David A. Pampu, Assistant Director for Planning, and William W. Johnston, Comprehensive Planning Section Chief. Much of the preliminary work was accomplished by Jerome M. Olson, and the many preliminary drafts, project listings, and final report were typed by Darlene L. Veeder.

Further acknowledgment is made of the participation and program review by the Transportation and Water Resources Sections of the DRCOG Planning Division, and the DRCOG Chief Administrative Officers, Regional Planning Advisory, Water Resources Advisory, and Parks and Recreation Advisory Committees.

RCIP METHODOLOGY

INTRODUCTION

The development of a Regional Capital Improvement Program is based on a process with several general stages:

A. CIP Preparation and Adoption

- Preparation and adoption of CIP's by local and regional agencies.

B. RCIP Preparation

- Identification by DRCOG of those capital improvement projects which may be considered regional in nature.
- Determination of relative project priorities for each functional area by DRCOG.
- Preparation of a final Interfunctional RCIP, based on regional policies and funding availability.

C. RCIP Review and Adoption

- RCIP review by DRCOG Advisory Committees, the Program Committee and Council, with subsequent adoption.

D. RCIP Implementation

- Transmittal of RCIP to local and regional implementing agencies for use in the preparation of future capital improvement programs.
- Use of the RCIP by DRCOG in the review of proposed local and regional agency projects for consistency with Regional Plans under the A-95 Project Notification and Review Process.

Each of these four general stages of development are explained in further detail in this section of the Regional Capital Improvement Program.

Pages 1 and 2 are Blank.

A. CIP PREPARATION AND ADOPTION

Capital Improvement Programs which are developed at local and regional agencies serve as the data base from which the project listings of the RCIP are developed. The lack of CIP's on the part of many agencies required a personal contact to identify improvements which agencies intended to develop over time. It is significant, however, that while only 7% of 262 identified local and regional implementing agencies presently have a capital improvement program, these agencies account for approximately two-thirds of all capital expenditures budgeted for 1974. While most of the agencies without CIP's are Local Special Districts (213), the most noteable exception is the Colorado Division of Highways, which accounts for nearly 10% of all capital expenditures for improvements in 1974. As a result, none of the projected expenditures by CDH will appear in the RCIP until the 5-year Transportation CIP is completed by DRCOG.

Two additional sources of information for capital improvement projects were those projects submitted through the A-95 Project Notification and Review process, and projects submitted in the development of the Urban Systems CIP. While many of these proposals were redundant, the review of these projects was useful in identifying those projects planned by agencies not using CIP's. Annual operating budgets normally do contain some information on capital expenditures, but as a rule do not address the details necessary to develop a RCIP and were not used as source data. Staged expenditures beyond one year are not identified, detailed project descriptions are normally not available, and capital expenditures are usually spread among numerous funds or accounts, often excluding altogether those projects funded by bonding.

Appendix E of this report contains suggested guidelines for the preparation of Capital Improvement Programs at the local level.

B. RCIP PREPARATION

The technical procedures followed in the development of the Regional Improvement Program are relatively straight forward. The process is composed of three general stages:

(1) Identification of "Regional" capital improvement projects.

(2) Determination of relative project priorities for each functional area.

(3) Preparation of Final Interfunctional RCIP.

Each of these stages of RCIP preparation are outlined in this section and are explained in further detail in the appropriate sections of the Regional Capital Improvement Program.

1. Identification of Regional Capital Improvement Projects

The initial stage of RCIP preparation involves the collection of project data into a consolidated total project listing. This stage is shown in Figure 1.

The development of a total project listing is based on the Capital Improvement Programs (CIP's) from the individual agencies of the region. Capital improvement projects from these programs, as well as any other capital projects which may be identified, are then classified and compiled into a composite listing.

This Total Project Listing is classified by agency, as well as functional area, in order to aid in further classification. The editing process of this stage is basicly one of translating the many formats into a single, unified form.

The definition of a capital expenditure varies considerably among agencies and for the purposes of the demonstration project, capital expenditures were commonly defined as:

> "expenditures which result in the acquisition of or additions to fixed assets, such as land, buildings, facilities, and major equipment."

Because of the potential confusion which could arise when a project is funded by one agency, implemented by another agency, and actually located in another jurisdiction, projects are identified and addressed according to the agency which is ultimately responsible for implementation of the capital improvement. For example, although funding for a road improvement located in the City of Lakewood could conceiveably come from the State, Jefferson County or the City itself, the project is identified by that agency (State, County, or City) which assumes the ultimate responsibility for the implementation of the project and final disbursement of funds. In nearly all cases, the project will be listed in the Capital Improvement Program of the responsible implementing agency.

The next step in the preparation process involves the identification of those projects which may be considered "regional" in nature and the elimination of those projects which may be classified as "local" in significance. Those projects which do not meet the definition of a capital improvement, as well as those projects for which there is insufficient information available, are also eliminated from the analysis at this time.

The determination of "regionality" is made by the application of a set of Selection Criteria which was developed specifically for the individual functional area. Once this application and subsequent classification has been made for each project, the capital improvement projects are compiled into a Regional Project Listing which contains only those projects judged to be "regional" in significance.

In addition to the compilation of this second listing, Project Description Forms are prepared for each of the regional projects to aid in further classifications. These forms contain a variety of information necessary for the next stage of the process.

2. Determination of Functional Area Priorities

Capital Improvement Programming ultimately involves the setting of priorities among capital improvements to insure the allocation of scarce resources in accordance with adopted goals and policies. This stage is shown in Figure 1.

In the absence of any previous example of Priority Criteria for any of the functional areas, an attempt was made to synthesize adopted Regional Objectives and Policies, as well as Regional Needs, which were identified in previous regional plans, into a set of common Priority Criteria. This criteria is then applied to the regional projects in order to determine a Priority List for the specific functional area.

Based on the identified objectives and policies, one possible priority system was developed. While many possible solutions may be proposed, the fundamental decision rests with the actual decision maker. As this project is only intended to be of a demonstrational nature, the accompanying priority criteria system is only one possible solution.

The system applied in this Regional Improvement Program uses a general point assignment to achieve relative ratings of projects. Six basic criteria were developed to represent elements of the identified objectives and policies in each of the functional areas:

- Regional Plan Consistency
- Local Commitment
- Need
- Extent of Service
- Environmental Impact
- Cost/Benefit Ratio

3. Preparation of Final Interfunctional RCIP

The Interfunctional Program element of the Regional Capital Improvement Program is designed to integrate the individual programs of each functional area into a single regional development statement for short-term capital improvements. This stage is shown in Figure 2.

The priority methodology which was developed was used in a demonstration application in order to provide an example of a final Regional Capital Improvement Program.

The system applied in this Regional Capital Improvement Program uses the previously determined functional area priorities as a base and then applies several additional criteria to determine if any re-ordering of priorities is necessary for an interfunctional RCIP. Initially, all projects of regional significance were classified into two categories, areawide projects and sub-area projects. During the course of the study, it was determined that some capital projects have considerably more potential impact than others. While some projects may impact only one subarea of the region, other projects may involve two or more sub-areas and even the region as a whole.

Within each classification, sub-area or areawide, the projects remained ranked according to the functional area priority which was established previously unless they were re-ordered by the application of the interfunctional criteria. The interfunctional re-ordering criteria is composed of three elements:

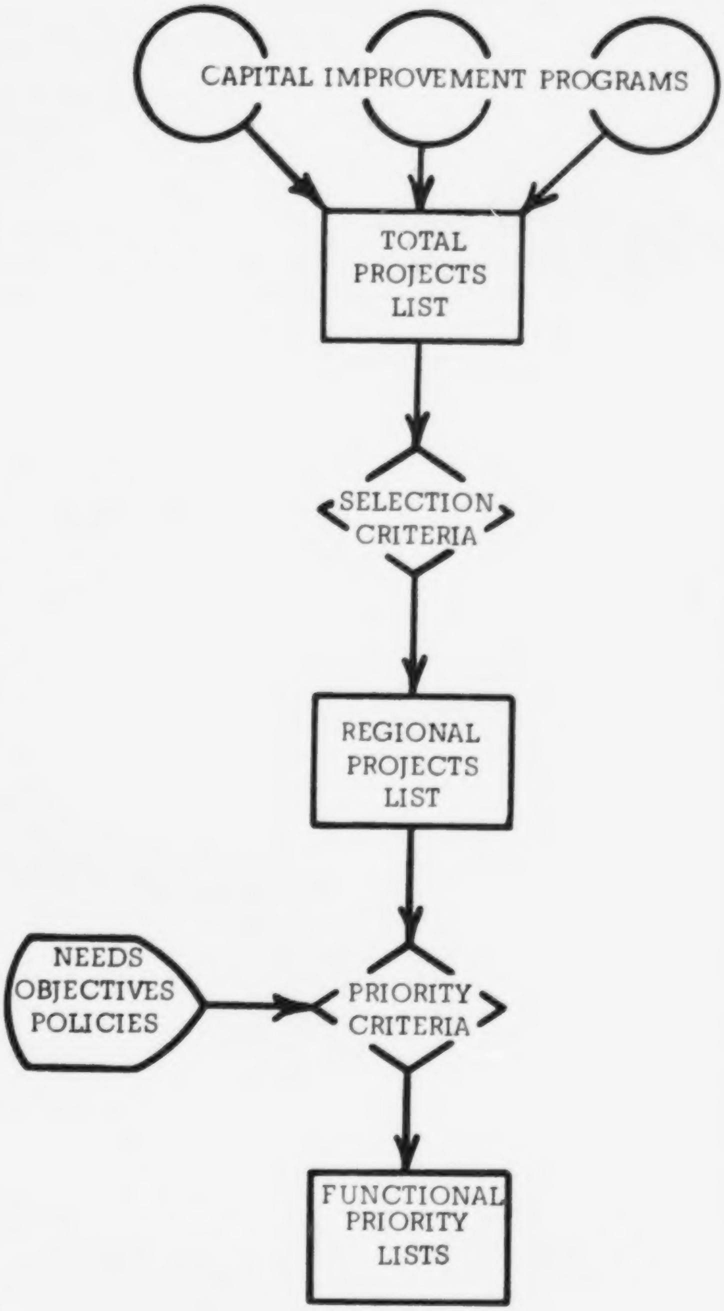
- Functional Need
- Consistency with Growth Plans
- Relationship to Other Projects

Once this consistency/compatability check is completed, each classification undergoes a final step to determine staging. An analysis is made of funding availability in order to determine potentially available support for each project, and an analysis is made of the commitment of the agency to the project.

As a result of this analysis, a staged development program is available for areawide projects, as well as for each sub-area within the Denver Region.

FIGURE 1

REGIONAL PROJECT SELECTION
AND FUNCTIONAL RANKING


CAPITAL IMPROVEMENT PROGRAMS
TOTAL PROJECTS LIST
SELECTION CRITERIA
REGIONAL PROJECTS LIST
NEEDS OBJECTIVES POLICIES
PRIORITY CRITERIA
FUNCTIONAL PRIORITY LISTS

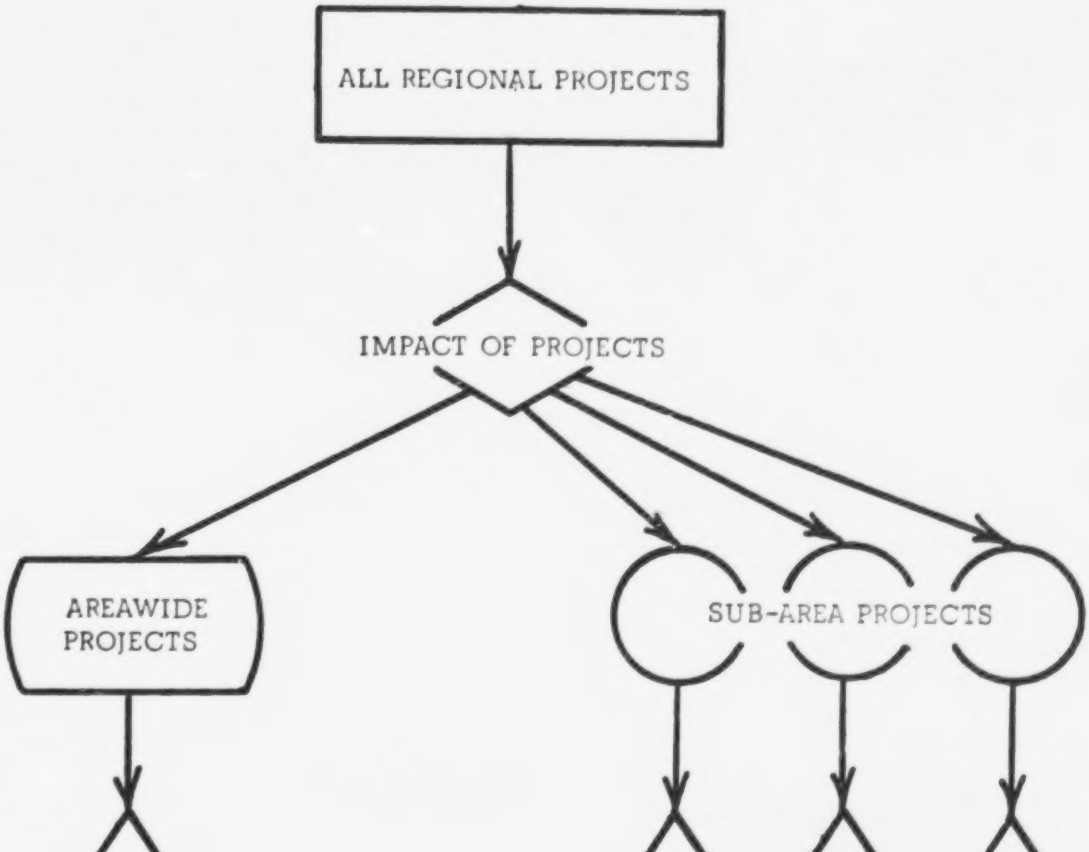
All capital improvement projects from individual agencies are integrated into composite project listing.

Selection Criteria is applied to determine projects of regional significance.

Priority Criteria is derived from Regional Needs/Objectives/Policies and applied to determine relative priorities.

FIGURE 2

INTERFUNCTIONAL RCIP PREPARATION


ALL REGIONAL PROJECTS
IMPACT OF PROJECTS
AREAWIDE PROJECTS
SUB-AREA PROJECTS
REORDERING
REORDERING OF PRIORITIES
FINAL STAGING
FINAL STAGING OF PROJECTS
FINAL REGIONAL CAPITAL IMPROVEMENT PROGRAM

C. RCIP REVIEW AND ADOPTION

The development of a set of priority criteria to determine priority ranking is central to the decision making process. The degree of involvement of the actual decision maker in the development of the criteria may vary considerably. The decision maker may assume sole responsibility for the development of the criteria, in addition to the application of the criteria to the projects, or he may delegate the preparation completely to the technician. Additionally, there are a great variety of intermediate mixtures of responsibility along this spectrum. For the purposes of this demonstration project, the technician assumed the initial responsibility for development of the criteria, as well as the application to individual projects.

Once this application was made, the results were reviewed with various committees in the Council of Governments. Because the project was demonstrational in nature, the committee reviews were primarily informational briefings.

The committees which participated in the review of the Regional Capital Improvement Program were:

RPAC • Regional Planning Advisory Committee
PAROS • Parks, Recreation, and Open Space Committee
WRAC • Water Resources Advisory Committee
CAO • Chief Administrative Officers

PROGRAM • Program Committee

D. RCIP IMPLEMENTATION

The factors enabling implementation of the program are explained in this section as are some of the additional uses of the document. The section addresses Federal, State and Regional powers which presently exist or which may be enacted to enable implementation of the RCIP.

1. Federal Authority

TRANSPORTATION

There are several existing Federal categorical programs which have planning and programming requirements that reinforce the RIP approach. Crucial to the implementation or any areawide development policy are the policies and programs relating to public transportation. DOT's Federal Aid Highway, Urban Mass Transit and Airports and Airways grants all have planning and programming requirements at the met ropolitan level. To ensure a coherent multi-modal approach, DOT has already proposed regulations which would require a single work program in each metropolitan area which integrates these categorical programs into a coherent and unified transportation policy for the region. The unified work program required for the Denver Region will cover all transportation and directly related comprehensive planning activities.

WATER/SEWER

The recently enacted Federal Water Pollution Control Amendments of 1972 provide for the establishment, in certain areas having substantial water pollution control problems, of a sophisticated planning and programming process for meeting federally-specified water quality discharge standards. This process will also be necessary for Federal grant-in-aid funds for waste treatment works, new sanitary sewer systems and certain other directly-related facilities required for water quality improvements. This planning process required under Section 208 of the Act will require a capital program for all waste treatment facilities in the region which are proposed for Federal grant assistance. This planning and programming process goes beyond the existing planning and programming and, therefore, serves as an important support for the RIP concept.

It appears, therefore, that in the area of transportation and water quality facilities, Federal policy and regulation will continue to be of vital importance to capital improvements planning at the metropolitan level.

HOUSING

The degree to which the RIP can become the underlying basis for Federal agency action in areas other than transportation and water quality is uncertain. Generally, the programs to which the RIP would address itself, with the exception of the above, fall within the purview of the Department of Housing and Urban Development. Therefore the degree of HUD's commitment to RIP in the event that community development block grants or revenue sharing is enacted, will be the ultimate determinant as to its usefulness and success.

Until December, 1972, it appeared that HUD had unequivocally committed itself to utilizing the concept of areawide fair share programs for achieving balanced development of low and moderate income housing within a region. But the reassessment of the low and moderate income programs reduced or eliminated the effectiveness of fair share formulae as a program tool for use in RIP.

If Congress develops subsidized housing programs which build upon the experiences of FHA 235 and FHA 236 and their predecessor programs, there will be significant efforts to assure that the regional approach to such programs is reflected. Until this basic issue is resolved, it is unclear whether federally assisted low and moderate housing programs will be a substantial supportive element within RIP.

2. State Authority

TRANSPORTATION

Several Federal aid programs which fall within the purview of RIP require state plans and programs. The Federal Aid Highway Act is most significant in this regard. Under this legislation, states are required to present to the Federal Government each year a program of projects for which their apportioned share of the Highway Trust Fund is to be spent. Generally, in metropolitan areas, these programs must be consistent with the Section 134 process. However, the weakness of the state programming requirement lies ultimately in the option of the state to select the projects in an urbanized area it chooses to fund. The state programs of projects establishes its own priorities and, therefore, the urbanized area's planning and programming are really implemented through a state priority system rather than through its own. Urban areas are, however, permitted to do a portion of their own program and priority setting through the urban systems program.

WATER/SEWER

As in the case of transportation, the Federal Water Pollution Control Act now requires a state plan and program. As in the past, the priorities for local treatment facilities are established ultimately by the state. However, with the advent of a Section 208 planning designation, the state is now required to follow more closely the priorities established within the 208 areas in developing state-wide priorities for the annual allotment of water pollution funds. The development of the 208 process in the metropolitan area therefore, would enhance the use of RIP by the state.

OPEN SPACE

Additionally, state outdoor recreation agencies may increasingly rely on COG as its open space data becomes the source for the region. Little long range open space planning occurs at the local level. At present, the states have not stepped into this area. COG's technical abilities suggest that the states might be willing to rely on COG in this area for the metropolitan area.

LAND USE

A final unknown is the degree to which state policy will reinforce RIP are the pending State Land Use bills. It is reasonable to suggest that state land use policies can provide substantial support to RIP if they are written in a fashion which allows regional agencies to have a substantial input into the development of state land use policies.

3. Regional Authority

Through the years, DRCOG has gained considerable experience in the preparation and adoption of various plans and policies. By building on that experience and utilizing that well developed process, COG may have a policy and plan adoption process fully capable of implementing the RIP.

As a Metropolitan Clearinghouse under OMB Circular A-95, DRCOG has had experience and has developed expertise in utilizing the A-95 review process. That process has given a strong impetus to intergovernmental coordination and communication. It permits local governments to review and comment upon proposals that have multi-jurisdictional impact and allows the metropolitan planning agency to address proposals from an areawide perspective. Most importantly, the process opens channels for mutual accommodation.

The A-95 review process is not without weaknesses. Critics have cited the advisory nature of the comments, lack of feedback from Federal funding agencies regarding the value and usefulness of comments generated for them, and the individual project orientation of the review process which prevents reviewing agencies from obtaining a complete picture--since total project proposals may be submitted in small parts over several years.

However, it is possible to improve upon or eliminate some of these weaknesses. The advisory nature of the comments would be overcome by strengthening the review process by providing adequate funding to conduct the reviews, and by requiring a consistency finding for all projects before Federal funding is granted. In addition, it has been suggested that with such a strengthened review process, a consistency finding by the metropolitan agency might serve as the basis for the Federal agency's decision, if applicable Federal regulations were also met. The project orientation can be overcome by requiring review of entire programs, not just individual projects.

The possible linkage between the A-95 process has helped set the stage for the kind of communication and working relationships that will be essential in developing and implementing a regional improvement program. The process might also be used to bring about cooperation in the RIP process where it could not be obtained by other means. OMB could impose requirements which would make participation by local governments and agencies in the RIP process mandatory for Federal funding of projects, even of a strictly local nature. All applications for Federal funding could be reviewed against the adopted RIP as the basis for A-95 review comments. The A-95 process, then, would be an important aid in achieving a functioning RIP process and implementing the Program itself.

REGIONAL CAPITAL IMPROVEMENT PROGRAM

INTRODUCTION

The Regional Improvement Program Section is presented in three separate parts:

A. RCIP SUMMARY
A summary of the entire Regional Improvement Program is presented in this part. Although the Executive Summary contains much of the same information, this part describes the program in much more detail. Various Figures and Tables are available, as well as explanations of the findings and conclusions of the Study.

B. FUNCTIONAL AREA PROGRAMS
The programs for each of the functional areas are presented in this section. Background needs/objectives/policies are summarized and the derivation of the priority listings are explained.

C. INTERFUNCTIONAL PROGRAM
A similar program is presented for the interfunctional analysis. Background regional needs/goals/policies are summarized and the derivation of the priority listing is explained.

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A. RCIP SUMMARY

INTRODUCTION

The summary section of the Regional Improvement Program presents the findings and conclusions of the study and contains a series of figures and tables, designed to demonstrate the key findings. The analysis is presented in several interrelated parts:

- 1974 Capital Expenditures
- Current Capital Improvement Programming
- Actual vs. Planned Expenditures
- Regional Capital Expenditures
- Functional Area Priorities
- Interfunctional Priorities
- RCIP Program Summary

Each part of the RIP Summary is introduced by the major conclusions which were drawn from the analysis and the following discussion presents a more detailed description of the findings.

1. 1974 CAPITAL EXPENDITURES

This part of the summary addresses only those capital expenditures which were budgeted by local and regional agencies for the 1974 calendar year. Most of the data for this part was derived from a previous study on capital expenditures, Regional Resources: 1974 Capital Expenditure Analysis and Capital Needs Statement for the Denver Metropolitan Area, DRCOG. June 19, 1974.

The major conclusions which were drawn from an analysis of 1974 Capital Expenditures are:

- Public Improvements programmed by local and regional agencies in the six RIP functional areas total $308,540,000 for 1974.

- The apparent principal priorities of the capital expenditures for the region at large are Water and Sewer, Transportation and Parks and Open Space; in that order.

- The apparent principal capital expenditure priorities of the local general purpose governments are Water and Sewer, Parks and Open Space, Highways and Streets; in that order.

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- Cities, towns and counties accounted for 48% of the aggregated capital expenditures of the region, and regional agencies for 38% of the public investment.

- Per capita capital expenditures for 1974 are $214, based on the DRCOG estimated metropolitan population of 1,441,500 on January 1, 1974.

The data presented and analyzed in the report was extracted from the 1974 fiscal and annual budgets of 252 governmental entities, exclusive of school districts, ranging from special districts to State government divisions. For the purposes of the study, a less inclusive definition of Capital expenditures was used. This definition was employed also for the further studies of this report:

> "expenditures which result in the acquisition of or additions to fixed assets, such as land, buildings, and major equipment."

The study determined that the several levels of government in the Denver metropolitan area are anticipating capital expenditures in the amount of $308,540,000 during 1974. This translates into a per capita expenditure of $214.00, based upon the DRCOG estimated metropolitan population on January 1, 1974 of 1,441,500.

Regionally, the total investment demonstrates that the number one priority for 1974 is Water, Sewer and Storm Drainage construction; accounting for 44% of total expenditures or $93.85 per capita. Transportation ranks second at 26% with Highway and Street construction being the major expenditure. Open Space, Parks and Recreation is third in priority and accounts for 10% of the regional expenditures at $20.36 per capita. Figure 3 demonstrates the regional expenditure relationship.

The $308,540,000 in public improvements are to be undertaken by six levels of government functioning in the metropolitan area. Figure 3 illustrates the government categories by percentage of the total expenditures. To illustrate, the twenty-five cities surveyed anticipate expending 43% of the total investment of $132,359,000. The 197 Local Special Districts account for 6% of the public improvements, amounting to $18,736,000.

The three principal municipal expenditure priorities are similar but not identical in order to those in regional aggregation: Water, Sewer and Storm Drainage--39%; Open Space, Parks and Recreation--21%; Highway and Street Construction--16%. These priorities represent the generalized municipal decision making pattern in the region, as evidenced through bonded expenditures and municipal budgets.

The information presented on counties is determined by a small base and as a result, generalizations about their activities are less reliable. Perhaps the most interesting bit of information about the four counties in 1974 is their lack of identifiable participation in Water, Sewer, and Storm Drainage facility construction. It is in these areas that the special purpose districts provide their most significant services.

The four regional districts which serve functions crossing municipal and county boundaries are currently anticipating expenditures which amount to 29% of the total regional activity. The governing bodies of these regional agencies are appointed by officials of local general purpose governments. Substantial annual increases in capital expenditures are projected in the near future for three of these agencies: Regional Transportation District, Metropolitan Denver Sewage Disposal District #1, and the Denver Water Board.

The 197 Local Special Districts surveyed account for 6% of the total regional expenditures. Water and Sanitation Districts which account for three-fourths of those surveyed expend 5% of the total regional capital dollars. As an actor in the total fiscal picture, they are not significant. They can be very significant, however, in certain localities. These special service districts are governed by Boards of Directors.

The urban renewal and housing authorities are agencies created by the cities to operate their respective programs. The expenditures cited here represent outlays for activities such as land acquisition, relocation, site clearance, site improvements and low-rent housing construction costs. These funds represent the estimated investment during fiscal 1974 and amount to 8.75% of the total capital activities in the region.

The Colorado Department of Highways which is governed by an appointed Board of Commissioners accounts for 9% of the regional capital decisions in fiscal 1974. The State Division of Parks & Outdoor Recreation accounted for only .14% of the capital activities in fiscal 1974. That is based, incidentally, on what is considered a lower than normal year.

In summary, Regional agencies (Regional Districts plus State agencies) account for 38% of the public capital decisions in the Denver Metropolitan Area. That percentage is likely to increase in the next several years as the regional districts undertake heavy investment. Given the fragmentation of local government versus regional decision makers (232 vs. 6) one might be drawn to the conclusion that the concept of regionalism is indeed here. Further discussion by functional areas will clarify this.

The fourteen school districts in the metropolitan area do account for substantial capital activities each year. In fact, it was estimated that the districts would add an additional $55,000,000 in construction activity to the $308,540,000 or 15% of total regional capital investment. The data, however, was not reliable and as a consequence was not included in this analysis. As it is, the relationships among the other levels of government are not changed because the school district activities are not directly complementary or competitive.

Public water facilities are constructed by three principal governmental entities. The data presented in Figure 4 shows the following pattern of decision making. Cities account for 47% of the planned construction, the Denver Water Board, 39% and Special Water Districts, 14%.

The implications of these statistics are that the Denver Water Board is the single most influential agency in the development of water facilities in the metropolitan area. Further, the cities are roughly twice as significant in capital expenditures for water as are the special districts. This may be a reflection of heavy municipal expenditures for raw water facilities as opposed to the distribution systems predominating in special districts.

In the area of sanitary sewer systems the special districts appear to be as equally significant in capital improvements as are the cities. Counties do not make these capital improvements. The significance of the special district improvements is that they are very important in the development of unincorporated areas on the urban fringe. The single most important agency in the region is the Metropolitan Denver Sewage Disposal District #1 which accounts for 75% of the total wastewater capital expenditures in 1974.

The statistics in Figure 4 demonstrate that the cities are responsible for 76% of the region's capital expenditures on Storm Drainage and Floodways. The balance of investment in 1974 was derived from the Urban Drainage District. Federal expenditures through the U.S. Army Corps of Engineers are not considered in this data.

The cities and counties in the region account for 98% of the identifiable expenditures on open space, parks and recreation. The great majority of county park expenditures are attributable to a fund in Jefferson County. This fund is a potential source of revenues for improvements within the cities. The administration of the fund remains in the county. Less than 1% of the region's park investment is contributed by the eleven Special Recreational Districts surveyed. The State Division of Parks and Outdoor Recreation accounts for 1.5% of 1974's regional investment. This state investment level is understood to be somewhat lower than a normal year.

Expenditures in Transportation are an aggregate of all expenditures on Highways, Airports, and Public Transit. In Highway construction only, the direct expenditures by the Colorado Department of Highways are the most significant contributor to the region's capital investment. CDH registers 58% of the total investment. The cities expend 39% of the total and the counties 3%. Capital investment by private developers are not included in these calculations.

The data on airport investment in the region is dominated by expenditures at Denver's Stapleton International Airport. Jefferson and Arapahoe Counties are providing the principle county level investment. In the area of public transit, capital expenditures proposed by the Regional Transportation District predominate.

In housing, Special Authorities predominate over city administrative housing offices and account for 94% of total capital expenditures in the functional area.

2. CURRENT CAPITAL IMPROVEMENT PROGRAMMING

In order to gain some appreciation of the validity of capital improvement programming in the region, a summary of CIP activity and participation was compiled. The major conclusions which were reached are:

- Of the $308,540,000 in planned expenditures for Capital Improvements in 1974, 53% are by agencies currently using relatively complete CIP's which are prepared on a regular basis.
- 34% of the expenditures are planned by agencies which do not use any form of CIP. The major classes of agencies in this category are State agencies, Special Authorities, and Local Special Districts.
- When only the expenditures of municipalities are compared, 71% of all 1974 municipal capital expenditures in cities were programmed by municipal governments which regularly use CIP's. However, the degree of CIP completeness varies considerably.

Table 3 shows the degree of participation in Capital Improvement Programming for each of the area agencies. To measure the effect, total 1974 Capital Expenditures were listed to demonstrate the magniture of activity in Regional Capital Improvement Planning.

Table 4 depicts the overall impact of CIP activity in the Region. Of the $308,540,000 planned expenditures on Capital Improvements in 1974, 53% was controlled by agencies currently using relatively complete CIP's which are prepared on a regular basis. It is more interesting to note that 34% of the expenditures are planned by agencies not now using any form of CIP financial planning. The major agencies in this category were State agencies, Special Authorities, and Local Special Districts.

Looking only at Municipalities, Table 5 demonstrates that 71% of 1974 Capital Expenditures in Cities were programmed by municipal governments who use regular CIP's. The degree of completeness varies considerably, however, and an appraisal of the comments in Table 3 will give a more accurate picture of the degree of planning in the agency CIP's.

3. ACTUAL VS. PLANNED EXPENDITURES

To further measure the accuracy of Capital Improvement Programming in the Region, a rough appraisal of actual vs. planned expenditures was devised. Total Capital Expenditures for 1974 were projected in a straight-line estimate for 5 years and aggregated to enable a comparison with the 5-year plans for total expenditures in agency CIP's. This technique is somewhat questionable and may only be used for an extremely generalized comparison. A basic error occurs when 1974 expenditures are not representative of average annual capital outlays.

The major conclusions of this part are:

- CIP's may not be representative of future expenditures to any significant degree. A straight-line projection of anticipated expenditures based on 1974 levels yields a much higher total than the programmed CIP total. Apparently, much more is actually expended than projected by the CIP's.

- A cursory look at past CIP's confirms a low degree of continuity from year to year. When a CIP is revised, it apparently does not merely entail dropping off the past year and moving planned expenditures ahead one year. In most cases, the entire CIP is revised with little or no comparability to the CIP of the previous year.

- The functional areas with the greatest differences between actual and programmed expenditures are Wastewater, Transportation and Housing.

Figure 5 shows the results of the comparison method when total expenditures for the region are appraised. The CIP expenditure projections are considerably less than what might be expected if 1974 expenditure levels were to continue. Even with this general technique, the results are significantly strong to prompt caution in the use of further data from CIP's. The CIP's may not be representative of future expenditures to any significant degree. A cursory look at past CIP's confirms a low degree of continuity from year to year. When a CIP is revised, it apparently does not merely entail dropping off the past year and moving planned expenditures over one year. In most cases, the entire CIP is revised with little or no comparability to the CIP of the previous year when staged expenditures are analyzed.

The functional areas most seriously affected are Wastewater, Transportation and Housing. There are considerable discripencies in the projected expenditures vs. programmed expenditures. Figures 6 and 7 show similar comparisons for each of the functional areas in an attempt to describe which agencies within the areas account for the most significant deviations.

Table 6 provides a summary, by agency, for these total capital expenditures that are programmed by the CIP's. The expenditures are staged over the time period and classified according to the level of government.

4. REGIONAL CAPITAL EXPENDITURES

This part of the RIP summary deals only with capital expenditures on those projects which have been classified as regional in nature. The conclusions which were reached concerning Regional Capital Expenditures are:

- Of planned expenditures classified as regional in nature capital outlays for Water make up the greatest proportion.
- Regional Districts (The Denver Water Board, The Metro Denver Sewage Disposal District, The Urban Drainage and Flood Control District, and The Regional Transportation District) account for well over half (54%) of the planned capital expenditures determined to be regional in effect.
- The Water, Wastewater, and Drainage areas are dominated by expenditures planned by Regional Districts for projects classified as regional. The Transportation area is also expected to show this same regional dominance when the State Highway Department CIP is available, and revised Regional Transportation District cost estimates are taken into account.
- The functional area of Parks is strongly dominated by Municipal expenditures with some participation by Counties and it is likely that this situation will continue.
- Housing improvement programs are not adequately defined at the present and do not provide sufficient

information to determine which projects may be considered regional in nature.

Figures 8 and 9 supply information which is based on the CIP's from implementing agencies in the Region and depicts all planned 5-year capital expenditures.

Water accounts for a significant proportion of the capital outlays planned and represents a considerable increase over the percentage share for a single year. Differences in shares may be accounted for by a variety of reasons. More extensive financial planning may occur in one functional area, the area may be more capital intensive, 1974 may not be representative of an average year, projects classified as regional may represent a considerable portion of the total budget, etc. Lacking additional information at this time, few definitive conclusions will be drawn from this brief analysis.

The most significant result to be derived from these figures is the impact of Regional Districts on CIP planning both in the aggregate, as well as in specific functional areas. It is important to keep in mind the qualifications expressed in the previous section about those agencies which do not participate in Capital Improvement Programming and their possible implications on this analysis.

Overall, Regional Districts (The Denver Water Board, The Metro Denver Sewage Disposal District, The Urban Drainage and Flood Control District, and The Regional Transportation District) account for well over half, 54%, of the planned capital expenditures at the regional level. Within specific functional areas, this share is even greater, as evidenced in Figure 9.

Water, Wastewater, and Drainage are dominated by the expenditures planned by Regional Districts. Transportation would possibly appear considerably different if several factors were taken into consideration: The State Highway Department accounts for close to one-third of annual Capital expenditures in the Region but does not presently use a CIP. A five-year CIP is under development at this time so that in the near future this picture could change considerably. Additionally, the Regional Transportation District is anticipating a sizeable increase in its capital improvement budget over the next few years and when the revised estimates are available, the Transportation functional area could very well assume the relative mix already evidenced in Water, Wastewater, and Drainage.

The functional area of Parks is strongly dominated by Municipal governments, with some participation by Counties. Housing capital improvement programs presently lack sufficient definition to enable a determination of which projects may be considered regional in nature.

Table 7 provides a summary of projects classified as regional for each agency in the area. A summary by functional area is also available and is presented in Table 8. This summary denotes various sub-divisions within each functional area, such as Raw Water acquision and storage expenditures as opposed to Water Treatment expenditures on capital projects classified as regional in significance. Table 8 also shows the amount of capital expenditures which were classified as strictly Local in concern, as well as the amount of expenditures on projects which offered an Insufficient Information base to allow classification. Projects classified as Other did not meet the definition of a "capital expenditure" as explained previously.

Although each functional area uses a much more specific definition to determine "Regionality" of projects, the following general criteria were used as a basis for the development of the various selection criteria to select those projects considered to be regional in nature:

- Interjurisdictional Impact
    - o Funded, operated or owned by more than one jurisdiction
    - o Significant effect on government, citizens, development or environment of more than one local government
    - o Extensive use by citizens of more than one local jurisdiction
- Regional Impact
    - o Significant effect on any adopted areawide plan, system, program or policy

These general criteria were further defined for each functional area. For example, any Water project which relates to Raw Water Acquisition is classified as Regional in nature. These specific criteria are listed within each Functional Area Program.

5. FUNCTIONAL AREA PRIORITIES

Regional improvement programming ultimately involves the setting of priorities among capital improvements to insure the allocation of scarce resources in accordance with adopted goals and policies. The major findings of this part are:

- Relative project priorities have been determined for each functional area and are presented in the individual Functional Area Program sections.

- The priority lists which were developed include total costs only and do not program staged expenditures. The aspect of funding availability figures so decisively in this process that without complete project information the task of staging expenditures over time was not undertaken.

The priority criteria to be used in the relative ranking of projects is intended to reflect those current objectives, policies and priority systems presently in use. Apparently no priority system in any of the functional areas is presently in use, with the possible exception of a limited system developed for use in Transportation Urban Systems allocations. Without the past development of ranking systems to serve as a base for the priority analysis, an extensive survey of existing objectives and policies was undertaken. The results of this survey are included in each of the functional area programs.

Based on the identified objectives and policies, one possible priority system was developed. While many possible solutions may be proposed, the fundamental decision rests with the actual decision maker. As this project is only intended to be of a demonstrational nature, the accompanying priority criteria system is only one possible solution.

The system applied in this Regional Improvement Program uses a general point assignment to achieve relative ratings of projects. Six basic criteria were developed to represent elements of the identified objectives and policies in each of the functional areas. By using a work sheet, points are assigned according to the extent that the project:

REGIONAL PLAN

- is consistent with regional plans and programs

LOCAL COMMITMENT

- has the financial, technical, and political backing to be implemented in the near future

NEED

- alleviates identified needs in the specific functional area

EXTENT OF SERVICE

- will serve a major segment of the population

ENVIRONMENTAL IMPACT

- will benefit the environment, safety and public health

COST/BENEFIT RATIO

- reflects a good cost/benefit relationship

The point assignments and resulting priority rankings were accomplished as a demonstration of the application of the priority system. Should another system be developed as a result of more extensive analysis within a functional area, the process would remain roughly similar.

In the application of the criteria to projects for this Regional Improvement Program, an assignment of points was only made when sufficient information on a project existed. As a result, even with the use of a generalized system, a complete analysis of many of the projects could not be made and projects with more complete information did, for the most part, rank higher. This same relationship was also true for interfunctional ranking.

6. INTERFUNCTIONAL PRIORITIES

The Interfunctional Program element of the Regional Capital Improvement Program is designed to integrate the individual programs of each functional area into a single regional development statement for short-term capital improvements. The major points of this section are:

- The final interfunctional priority criteria is based on service area need, relationship to other services, growth plan consistency, funding availability, and commitment of the agency to the project.
- Relative project priorities have been determined for projects which are clearly areawide in impact and for one example sub-area of the region.

No priority system is presently in use. Without the past development of a ranking procedure to serve as the basis for a priority analysis, only one possible prirority methodology was developed. While many possible solutions may be proposed, the fundamental decision rests with the actual decision maker. As this project is only intended to be of a demonstrational nature, the accompanying priority criteria methodology is only one possible solution.

The priority methodology which was developed was used in a demonstration application in order to provide an example of a final Regional Capital Improvement Program. The resulting lists should be interpreted only as a representative example of this application.

The system applied in this Regional Capital Improvement Program uses the previously determined functional area priorities as a base and then applies several additional criteria to determine if any re-ordering of priorities is necessary for an interfunctional RCIP. Initially, all projects of regional significance were classified into two categories, areawide projects and sub-area projects. During the course of the study, it was determined that some capital projects have considerably more potential impact than others. While some projects may impact only one sub-area of the region, other projects may involve two or more sub-areas and even the region as a whole.

Within each classification, sub-area or areawide, the projects remained ranked according to the functional area priority which was established previously unless they were re-ordered by the application of the interfunctional criteria. In order to accomplish this criteria application, a point system was used. Points are assigned to each project according to the extent or degree that the project:

FUNCTIONAL NEED

- was previously ranked within its specific functional area

GROWTH CONSISTENCY

- is consistent with growth and development policies and guidelines established in the Regional Development Plan

RELATIONSHIP TO OTHER PROJECTS

- is necessary to insure coordination with another related project

Once this consistency/compatability check is completed, each classification undergoes a final step to determine staging. An analysis is made of funding availability in order to determine potentially available support for each project, and an analysis is made of the commitment of the agency to the project.

As a result of this analysis, a staged development program is available for areawide projects, as well as for each sub-area within the Denver Region. The final step of the RCIP preparation is the combination of each of these programs into a staged listing.

7. RCIP PROGRAM SUMMARY

Functional Programs. Summaries of the functional programs are available in each of the functional sections of the RCIP. A summary of these expenditures for projects classified as regional in nature by each local and regional agency during the 1974-79 period is presented in Table 15 and represents the combination of each of the individual functional programs. All costs are given in 1000's of 1974 dollars.

The staged program would call for an expenditure of $502,000,000 during the five-year time period with a substantial portion of the planned expenditures occurring in the initial years of the program.

The four Regional Agencies (The Denver Water Department, The Metropolitan Denver Sewage Disposal District, The Urban Drainage and Flood Control District, and The Regional Transportation District) account for 54% of the total planned expenditures with even greater shares in the functional areas of Water, Wastewater, and Drainage. Local agencies (Municipalities, Counties Special Authorities, and Local Special Districts) project major expenditures in the functional areas of Parks and Transportation.

Interfunctional Program. Tables 9 through 13 provide summaries of the interfunctional Regional Capital Improvement Program for each functional area: Water, Wastewater, Drainage, Parks, and Transportation. The projected capital expenditures are categorized by areawide projects, as well as by one example sub-area in the Denver Region. A Regional Total is available in Table 14.

Final RCIP. Table 16 provides an example summary of the final Regional Capital Improvement Program. The staged program would call for an expenditure of $155,000,000 on projects classified as areawide in impact. This represents 31% of the total planned regional capital expenditures. One sub-area was prepared as an example and $43,000,000 was programmed for the South Jeffco Sub-area. This was 9% of the $502,000,000 regional total.

CIP ACTIVITY SUMMARY

TABLE 3

Municipalities	1974 Capital Expenditures (000's)	%	CIP	Comments
Arvada	5,350	2%	X	CIP due by next year.
Aurora	11,267	4%	●	Annual 5-year CIP with functional priority listing and total costs. No specific project information.
Boulder	6,570	2%	●	Annual 6-year CIP with general priority groups and total costs. No specific project information.
Bow Mar				No plans to develop CIP.
Brighton	197		*	701 grant CIP with general priorities and some cost staging. Some specific project information.
Broomfield	4,403	1%		No plans to develop CIP.
Cherry Hills	74			No plans to develop CIP.
Columbine Valley				No plans to develop CIP.
Commerce City	5,141	2%	o	Annual 3-year CIP for streets and drainage with limited priority assignments and total costs. No specific project information.
Denver	51,339	17%	●	Annual 6-year CIP with functional priority listing and xost staging bi-annually. Some project information available.
Edgewater	81			No plans to develop CIP.
Englewood	8,549	3%	o	6-quarter budget. CIP includes project priorities but no cost estimates.
Erie			*	701 grant CIP with priority listing and cost staging. Some project information available.
Federal Heights	370			No plans to develop CIP.
Glendale	2,238	1%	*	701 grant CIP with functional priority listing and cost staging. No specific project information.
Golden	1,189		●	Annual 5-year CIP with functional priority listing and cost staging. Considerable project information available.
Greenwood Village	397		X	CIP due by next year.
Jamestown				No plans to develop CIP.
Lafayette	1,010			No plans to develop CIP.
Lakewood	6,609	2%	●	Annual 5-year CIP with complete priority listings and complete cost staging. Complete project information available.
Littleton	1,519		●	Annual 5-year CIP with functional priority listings and cost staging. No project information available.
Longmont	2,010	1%	o	CIP limited to 2 years. More comprehensive CIP due by next year.
Louisville	680		*	701 grant CIP with some priority listing and cost staging. Some project information available.

Municipalities	1974 Capital Expenditures (000's)	%	CIP	Comments
Lyons				No plans to develop CIP.
Morrison	202			No plans to develop CIP.
Northglenn	2,133	1%	*	Recommended CIP (1973) with priority listing and cost staging. Considerable project information available.
Sheridan	51			No plans to develop CIP.
Thornton	15,538	5%	*	701 grant 5-year CIP with priority listings and cost staging. Some project information available.
Westminister	5,001	2%	X	CIP due by fall, 1974.
Wheat Ridge	441		X	CIP due by next year.
Total Municipalities	132,359	43%		
Counties				
Adams	1,170			No plans to develop CIP.
Arapahoe	1,472			No plans to develop CIP.
Boulder	3,460	1%	X	CIP due by next year. To be included in County Development Plan.
Jefferson	8,130	3%		No plans to develop CIP. County Open Space has limited information.
Total Counties	14,232	5%		
State				
Department Highways	27,295	9%		No plans to develop CIP. Strictly annual budget basis for expenditures.
Parks & Recreation	441			No plans to develop CIP.
Total State	27,736	9%		
Regional Special Districts				
Denver Water Board	23,656	8%	●	Annual 5-year CIP with priorities through cost staging. No additional project information available.
Metro Sewage	45,895	15%	●	Annual 5-year CIP with general classes of expenditures and cost staging. Some additional project information.
Urban Drainage	3,356	1%	○	Annual 5-year CIP with priorities through cost staging. No additional project information available.
Regional Transportation	15,558	5%	●	Annual 5-year CIP with priorities and some cost staging. Considerable additional project information available.
Total Regional Districts	88,465	29%		

Special Authorities	1974 Capital Expenditures (000's)	%	CIP	Comments
Boulder Housing				No plans to develop CIP.
Englewood Housing				No plans to develop CIP.
Lakewood Housing				No plans to develop CIP.
Littleton Housing	1,725	1%		No plans to develop CIP.
Denver Housing	11,550	4%		No plans to develop CIP.
Adams County Housing				No plans to develop CIP.
Denver Urban Renewal	13,212	4%		No plans to develop CIP.
Longmont Urban Renewal	427			No plans to develop CIP.
Louisville Urban Renewal	98			No plans to develop CIP.
Total Special Authorities	27,012	9%		
Local Special Districts				
Water/Sanitation (67)	12,884	4%		No plans to develop CIP's.
Water (41)	1,844	1%		No plans to develop CIP's.
Sanitation (40)	2,025	1%		No plans to develop CIP's.
Park & Recreation (18)	20			No plans to develop CIP's.
Fire Protection (33)	1,963	1%		No plans to develop CIP's.
School (14)				No plans to develop CIP's.
Total Local Districts	18,736	6%		
Total Region	308,540	100%		

X CIP to be developed by next year.
* Existing Capital Improvement Program but not developed on regular basis.
o Regular CIP development but with limited information available.
● Established program for regular CIP development.

CIP ACTIVITY REGIONAL TOTAL

TABLE 4

	1974 Capital Expenditures	
	(000's)	%
● Complete/Regular Programs		
Municipalities (6)	78,493	25%
Regional Special Districts (3)	85,109	28%
Total Complete/Regular	163,602	53%
o Regular Programs		
Municipalities (3)	15,700	5%
Regional Special Districts (1)	3,356	1%
Total Regular	19,056	6%
* Existing CIP		
Municipalities (6)	20,786	7%
X Future CIP		
Municipalities (4)	11,189	4%
Counties (1)	3,460	1%
Total Future CIP	14,649	5%
No Plans		
Municipalities (11)	6,191	2%
Counties (3)	10,772	3%
State (2)	27,736	9%
Special Authorities (9)	27,012	9%
Local Special Districts (213)	18,736	6%
Total No Plans	90,447	29%
Total Region	308,540	100%

X CIP to be developed by next year.
* Existing Capital Improvement Program but not developed on regular basis.
o Regular CIP development but with limited information available.
● Established program for regular CIP development.

CIP ACTIVITY MUNICIPALITIES

TABLE 5

	1974 Capital Expenditures (000's)	%	1974 Population (000's)	%
● Complete/Regular Programs				
Lakewood	6,609		116	
Denver	51,339		530	
Golden	1,189		13	
Aurora	11,267		111	
Littleton	1,519		33	
Boulder	6,570		76	
Total Complete/Regular	78,493	59%	879	71%
o Regular Program				
Longmont	2,010		34	
Commerce City	5,141		19	
Englewood	8,549		36	
Total Regular	15,700	12%	89	7%
* Existing CIP				
Northglenn	2,133		34	
Erie			1	
Brighton	197		10	
Thornton	15,538		32	
Louisville	680		4	
Glendale	2,238		3	
Total Existing CIP	20,786	16%	84	7%
X Future CIP				
Arvada	5,350		72	
Greenwood Village	397		4	
Westminster	5,001		30	
Wheat Ridge	441		35	
Total Future CIP	11,189	8%	141	11%
No Plans				
11 Municipalities	6,191	5%	43	3%
Total Municipalities	132,359	100%	1236	100%

CAPITAL IMPROVEMENT SUMMARY
(000's)

TOTAL PROJECTS		FUNCTIONAL AREA Total JURISDICTION Agency Summary					
PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
Municipalities							
*Arvada	3,768	5,517	5,778	1,200			17,263 (2%)
*Aurora	16,725	20,399	19,630	17,100	11,711		84,465 (12%)
*Boulder	6,648						62,136 (8%)
Bow Mar							
*Brighton		917	1,391	1,850	1,507	1,130	11,738 (2%)
Broomfield							
*Cherry Hills	80						80
Columbine Valley							
*Commerce City	6,465	4,673	4,731	900			16,769 (2%)
*Denver	5,300	27,021	27,021	14,095	14,095		108,562 (15%)
*Edgewater	100						100
Englewood							
*Erie	795	2,704	246	234	6		3,976
Federal Heights							
*Glendale	810	341	691	41			2,196
*Golden	534	215	193	288	185		1,415
Greenwood Village							
Jamestown							
Lafayette							
*Lakewood		6,392	9,368	8,246	9,329	6,630	40,063 (5%)
*Littleton	872	780	827	653	1,176		5,564
*Longmont	1,542	2,331					3,921
*Louisville	719	764	8,822	207	247	295	11,624 (2%)
Lyons							
Morrison							
*Northglenn	2,031	1,225	2,042	320	150	90	5,858
*Sheridan	20						20

TABLE 6

CAPITAL IMPROVEMENT SUMMARY
(000'S)

TOTAL PROJECTS		FUNCTIONAL AREA Total JURISDICTION Agency Summary					
PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
Municipalities Cont.							
*Thornton	7	6,819	3,500	3,131	2,291	4,537	20,286 (3%
*Westminster	60					756	816
*WheatRidge	461	375					836
Total Municipalities	46,937	80,473	84,240	48,537	40,738	27,533	398,688 (54%
Counties							
*Adams County	228	1,120		1,560		285	3,193
*Arapahoe County	25					120	6,175
Boulder County							
*Jefferson County	2,379	519	37				3,460
Total Counties	2,632	1,639	37	1,560		405	12,828 (2%
State							
Colorado Department of Highways							
*Division of Parks and Outdoor Recreation							697
Total Direct State							697
Regional Special Districts							
*Denver Water Board	23,656	52,558	65,559	36,438	26,096		204,307 (28%
*Metropolitan Sewer District	15,199	20,697	13,475	12,804	63		62,238 (8%
*Urban Drainage District	4,034	2,253	4,582	3,989	4,280		19,138 (3%
*Regional Transportation District	3,304	11,747	5,436	5,730	5,730		31,948 (4%
Total Regional Special Districts	46,193	87,255	89,052	58,961	36,169		317,631 (43%

CAPITAL IMPROVEMENT SUMMARY
(000'S)

TOTAL PROJECTS

FUNCTIONAL AREA Total

JURISDICTION Agency Summary

PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
Special Authorities							
Boulder Housing Authority							
Englewood Housing Authority							
Lakewood Housing Authority							
Littleton Housing Authority							
Denver Housing Authority							
Adams County Housing Authority							
Denver Urban Renewal Authority							
Longmont Urban Renewal Authority							
Louisville Urban Renewal Authority							
Total Special Authorities							
Local Special Districts							
*Water and Sanitation Districts (67)	3,104	1,218	1,246	173	160	175	9,603
Water Districts (41)							
Sanitation Districts (40)							
Park and Recreation Districts (18)							
Fire Protection Districts (33)							
School Districts (14)							
Total Local Special Districts	3,104	1,218	1,246	173	160	175	9,603
Total Projects	98,866	170,585	174,576	109,231	77,068	28,113	739,447 (100%

TABLE 7

CAPITAL IMPROVEMENT SUMMARY
(000's)

REGIONAL PROJECTS	FUNCTIONAL AREA Total						
	JURISDICTION Agency Summary						
PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
Municipalities							
*Arvada	1,554	4,217	4,578				11,349(2%)
*Aurora	8,017	13,630	9,043	5,865			40,532(8%)
*Boulder	3,574						
Bow Mar							
*Brighton		150	88	90	88	90	5,881
Broomfield							
*Cherry Hills	80						80
Columbine Valley							
*Commerce City	133	150		900			1,183
*Denver	2,605	15,891	15,891	8,848	8,848	8,848	67,866(14%)
*Edgewater	100						100
Englewood							
*Erie	40	30	30	30	30	30	2,632
Federal Heights							
*Glendale	540		550				1,090
*Golden	474	145	123	223	120		1,085
Greenwood Village							
Jamestown							
Lafayette							
*Lakewood		4,533	8,196	6,669	8,705	5,742	33,844
*Littleton	45						45
*Longmont							48
*Louisville							8,500(2%)
Lyons							
Morrison							
*Northglenn	1,350	1,225	1,502	320		90	4,487
*Sheridan	20						20
*Thornton	7	1,765	1,907	1,547	574	1,125	6,925
*Westminster	60					756	816
*Wheat Ridge	461	375					836
Total Municipalities	19,060	42,111	41,908	24,492	22,312	16,651	214,220(43%)

CAPITAL IMPROVEMENT SUMMARY
(000's)

REGIONAL PROJECTS	FUNCTIONAL AREA / JURISDICTION	Total / Agency Summary					
PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
Counties							
*Adams County	228	1,120		1,560		285	3,193
*Arapahoe County	25					120	6,175
Boulder County							
*Jefferson County	2,379	519	37				3,460
Total Counties	2,632	1,639	37	1,560		405	12,828(3%)
State							
Colorado Department of Highways							
Division of Parks and Outdoor Recreation							697
Total State							697
Regional Special Districts							
•Denver Water Board	16,583	44,080	49,597	28,515	18,275		157,074(31%)
Metropolitan Sewer District	14,980	20,190	13,085	12,700			60,955(12%)
Urban Drainage District	4,034	2,253	4,582	3,989	4,280		19,138(4%)
Regional Transportation District	3,304	11,747	5,436	5,730	5,730		31,948(6%)
Total Regional Special Districts	38,901	78,270	72,700	50,934	28,285		269,115(54%)
Special Authorities							
Boulder Housing Authority							
Englewood Housing Authority							
Lakewood Housing Authority							
Littleton Housing Authority							
Denver Housing Authority							
Adams County Housing Authority							
Denver Urban Renewal Authority							
Longmont Urban Renewal Authority							
Louisville Urban Renewal Authority							
Total Special Authorities							

CAPITAL IMPROVEMENT SUMMARY
(000'S)

REGIONAL PROJECTS		**FUNCTIONAL AREA** Total **JURISDICTION** Agency Summary					
PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
Local Special Districts							
Water and Sanitation Districts (67)	1,302	412	143				5,217
Water Districts (41)							
Sanitation Districts (40)							
Park and Recreation Districts (18)							
Fire Protection Districts (33)							
School Districts (14							
Total Local Special Districts	1,302	412	143				5,217
Total Regional Projects	61,894	122,432	114,788	76,986	50,597	17,056	502,077(100%)

TABLE 8

CAPITAL IMPROVEMENT SUMMARY
(000's)

TOTAL	FUNCTIONAL AREA Functional Area Summary JURISDICTION Total						
PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
WATER							
Raw Water	6,466	23,749	22,376	7,731	10,801		76,377
Treatment/Storage	6,063	10,863	4,674	3,552	2,692		42,439
Transmission	10,671	19,883	28,425	19,685	7,382		86,746
Total Regional Water	23,200	54,495	55,475	30,968	20,875		205,562
Local							21,004
Insufficient Information							8,959
Other							23,084
Total Water	31,955	64,876	80,029	40,190	29,266	497	250,609 (35%
WASTEWATER							
Treatment	14,170	14,525	3,265	6,570			46,840
Transmission	2,048	7,227	12,588	8,430			31,055
Total Regional Wastewater	16,218	21,752	15,853	15,000			77,895
Local							3,467
Insufficient Information							5,188
Other							2,007
Total Wastewater	19,185	25,088	18,550	16,748	2,201	226	88,557 (12%
DRAINAGE							
Total Regional Drainage	6,396	4,655	6,323	5,476	6,137	1,664	30,651
Local							6,965
Insufficient Information							29,121
Other							30
Total Drainage	9,731	8,384	12,330	9,153	8,594	2,234	66,766 (9%

CAPITAL IMPROVEMENT SUMMARY
(000's)

		FUNCTIONAL AREA	Functional Area Summary				
TOTAL		**JURISDICTION**	Total				
PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
PARKS							
Open Space	2,909	519	37				13,898
Regional Parks		2,009	1,705	2,358	1,958	1,309	11,783
District Parks	300	595	1,850	215	215	215	3,920
Community Parks	400	1,210	2,642	850	825	844	7,921
Neighborhood Parks	1,309	2,808	2,142	1,596	2,041	1,447	12,097
Hike/Bike Ways	20	232	202	279	114	259	370
Special Use Facilities	23	5,436	4,091	236	236		10,299
TOTAL REGIONAL PARKS	4,961	12,808	12,668	5,533	5,391	4,309	61,057
Local							1,792
Insufficient Information							33,380
Other							2,463
TOTAL PARKS	8,292	20,484	16,795	10,146	8,559	8,689	98,692 (13%)
TRANSPORTATION							
Principal Arterials	6,412	14,038	17,048	12,977	12,239	8,067	73,450
Major Arterials	1,323	1,192	1,040	325	225	3,016	7,132
Minor Arterials	80	1,745	945	977			3,747
Mass Transit	3,304	11,747	5,436	5,730	5,730		31,948
Airports							10,635
TOTAL REGIONAL TRANSPORTATION	11,119	28,722	24,469	20,009	18,194	11,083	126,912
Local							7,932
Insufficient Information							34,687
Other							9,354
TOTAL TRANSPORTATION	22,580	41,217	37,423	25,501	22,958	13,005	178,885 (24%)

CAPITAL IMPROVEMENT SUMMARY
(000'S)

TOTAL	FUNCTIONAL AREA Functional Area Summary JURISDICTION Total						
PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
HOUSING							
TOTAL REGIONAL HOUSING							
Insufficient Information							
TOTAL HOUSING	848	906	906	30	30	30	2,780
OTHER	6,275	9,630	8,543	7,463	5,460	3,432	45,158(6%)
TOTAL							
TOTAL REGIONAL	61,894	122,432	114,788	76,986	50,597	17,056	502,077(68%)
Local							
Insufficient							41,159(6%)
Other							114,115(15%)
TOTAL	98,866	170,585	174,576	109,231	77,068	28,113	739,447(100%)

TABLE 9

CAPITAL IMPROVEMENT SUMMARY
(000'S)

REGIONAL PROJECTS	FUNCTIONAL AREA Water						
	JURISDICTION						
PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
Area-Wide Projects	6,195	23,922	20,227	6,320	8,025		64,689(31%)
Sub-Area Projects*							
Boulder							
Boulder Rural							
Boulder Mountain							
Longmont							
North Jeffco							
South Jeffco*							
Jeffco Mountain	2,360	2,085	1,922	4,229	1,885		12,481(6%)
West Adams							
East Adams							
Adams Plains							
Central							
Denver							
Aurora							
West Arapahoe							
Arapahoe Plains							
Total Sub-Area							
Total Regional Water	23,200	54,495	55,475	30,968	20,875		205,562(100%)

* Sub-areas definitions are assumed for the purposes of the demonstration.

TABLE 10

CAPITAL IMPROVEMENT SUMMARY
(000's)

REGIONAL PROJECTS

FUNCTIONAL AREA Wastewater

JURISDICTION

PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
Area-Wide Projects	14,650	18,025	8,715	12,360			53,750(69%)
Sub-Area Projects*							
Boulder							
Boulder Rural							
Boulder Mountain							
Longmont							
North Jeffco							
South Jeffco*							
Jeffco Mountain		28	178	340			546
West Adams							
East Adams							
Adams Plains							
Central							
Denver							
Aurora							
West Arapahoe							
Arapahoe Plains							
Total Sub-Area							
Total Regional Wastewater	16,218	21,752	15,853	15,000			77,895(100%)

* Sub-areas definitions are assumed for the purposes of the demonstration.

TABLE 11

CAPITAL IMPROVEMENT SUMMARY
(000'S)

REGIONAL PROJECTS		**FUNCTIONAL AREA** Drainage					
		JURISDICTION					
PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
Area-Wide Projects							
Sub-Area Projects*							
Boulder							
Boulder Rural							
Boulder Mountain							
Longmont							
North Jeffco							
South Jeffco*	20	196	187	325	664	610	2,002(7%)
Jeffco Mountain							
West Adams							
East Adams							
Adams Plains							
Central							
Denver							
Aurora							
West Arapahoe							
Arapahoe Plains							
Total Sub-Area							
Total Regional Drainage	6,396	4,655	6,323	5,476	6,137	1,664	30,651(100%)

* Sub-areas definitions are assumed for the purposes of the demonstration.

TABLE 12

CAPITAL IMPROVEMENT SUMMARY
(000's)

REGIONAL PROJECTS	**FUNCTIONAL AREA** Parks						
	JURISDICTION						
PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
Area-Wide Projects	697						697
Sub-Area Projects*							
Boulder							
Boulder Rural							
Boulder Mountain							
Longmont							
North Jeffco							
South Jeffco*							
Jeffco Mountain		2,349	3,445	2,237	2,067	3,208	13,305 (22%)
West Adams							
East Adams							
Adams Plains							
Central							
Denver							
Aurora							
West Arapahoe							
Arapahoe Plains							
Total Sub-Area							
Total Regional Parks	4,961	12,808	12,668	5,533	5,391	4,309	61,057 (100%)

* Sub-areas definitions are assumed for the purposes of the demonstration.

TABLE 13

CAPITAL IMPROVEMENT SUMMARY
(000's)

REGIONAL PROJECTS		**FUNCTIONAL AREA** Transportation					
		JURISDICTION					
PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
Area-Wide Projects	7,366	11,747	5,436	5,730	5,730		36,010 (28%)
Sub-Area Projects*							
Boulder							
Boulder Rural							
Boulder Mountain							
Longmont							
North Jeffco							
South Jeffco	1,192	2,783	2,260	1,995	4,301	1,870	14,401 (11%)
Jeffco Mountain							
West Adams							
East Adams							
Adams Plains							
Central							
Denver							
Aurora							
West Arapahoe							
Arapahoe Plains							
Total Sub-Area							
Total Regional Transportation	11,119	28,722	24,469	20,009	18,194	11,083	126,912 (100%)

* Sub-areas definitions are assumed for the purposes of the demonstration.

TABLE 14

CAPITAL IMPROVEMENT SUMMARY
(000's)

REGIONAL PROJECTS	FUNCTIONAL AREA Functional Area Summary						
	JURISDICTION						
PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
Area-Wide Projects	28,865	55,623	35,352	19,064	15,007	1,054	154,965 (31%)
Sub-Area Projects*							
Boulder							
Boulder Rural							
Boulder Mountain							
Longmont							
North Jeffco							
South Jeffco*	3,572	7,441	7,992	9,126	8,917	5,688	42,735 (9%)
Jeffco Mountain							
West Adams							
East Adams							
Adams Plains							
Central							
Denver							
Aurora							
West Arapahoe							
Arapahoe Plains							
Total Sub-Area							
Total Regional Projects	61,894	122,432	114,788	76,986	50,597	17,056	502,077 (100%)

* Sub-areas definitions are assumed for the purposes of the demonstration.

TABLE 15

CAPITAL IMPROVEMENT SUMMARY
(000'S)

REGIONAL PROGRAM SUMMARY		FUNCTIONAL AREA JURISDICTION					
PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	Not Staged	**ESTIMATED TOTAL COST**
LOCAL AGENCIES*							
Water	6,617	10,415	5,878	2,453	2,600	20,525	48,488
Wastewater	1,238	1,562	2,768	2,300	--	9,072	16,940
Drainage	2,362	2,402	1,741	1,487	1,857	1,664	11,513
Parks	4,961	12,808	12,668	5,533	5,391	18,999	60,360
Transportation	7,815	16,975	19,033	14,279	12,464	24,398	94,964
Total	22,993	44,162	42,088	26,052	22,312	74,658	232,265
REGIONAL AGENCIES**							
Water (Denver Water Dept.)	16,583	44,080	49,597	28,515	18,275	24	157,074
Wastewater (MDSDD#1)	14,980	20,190	13,085	12,700	--	--	60,955
Drainage (UDFCD)	4,034	2,253	4,582	3,989	4,280	--	19,138
Parks (State Parks Division)	--	--	--	--	--	697	697
Transportation (RTD)	3,304	11,747	5,436	5,730	5,730	1	31,948
Total	38,901	78,270	72,700	50,934	28,285	722	269,812
TOTAL							
Water	23,200	54,495	55,475	30,968	20,875	20,549	205,562
Wastewater	16,218	21,752	15,853	15,000		9,072	77,895
Drainage	6,396	4,655	6,323	5,476	6,137	1,664	30,651
Parks	4,961	12,808	12,668	5,533	5,391	19,696	61,057
Transportation	11,119	28,722	24,469	20,009	18,194	24,399	126,912
Total	61,894	122,432	114,788	76,986	50,597	75,380	502,077

* Municipalities, Counties, Special Authorities, Local Special Districts
** Regional Special Districts, State

TABLE 16

CAPITAL IMPROVEMENT SUMMARY
(000's)

REGIONAL CAPITAL IMPROVEMENT PROGRAM	FUNCTIONAL AREA						
	JURISDICTION						
PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
AREA-WIDE TOTAL*							
Water	6,195	23,922	20,227	6,320	8,025		64,689
Wastewater	14,650	18,025	8,715	12,360			53,750
Drainage							
Parks	697						697
Transportation	7,366	11,747	5,436	5,730	5,730		36,010
Housing							
Total Area-Wide	28,865	55,623	35,352	19,064	15,007		154,965
SOUTH JEFFCO SUB-AREA*							
Water	2,360	2,085	1,922	4,229	1,885		12,481
Wastewater		28	178	340			546
Drainage	20	196	187	325	664	610	2,002
Parks		2,349	3,445	2,237	2,067	3,208	13,305
Transportation	1,192	2,783	2,260	1,995	4,301	1,870	14,401
Housing							
Total South Jeffco	3,572	7,441	7,992	9,126	8,917	5,688	42,735
SUB-AREA TOTAL							
TOTAL**							

*Figures reflect only those projects which have been analyzed and classified to date.
**Total would include all area-wide and sub-area projects in the region.

ACTUAL 1974 BUDGETED CAPITAL EXPENDITURES

TOTAL
($308,540,000)

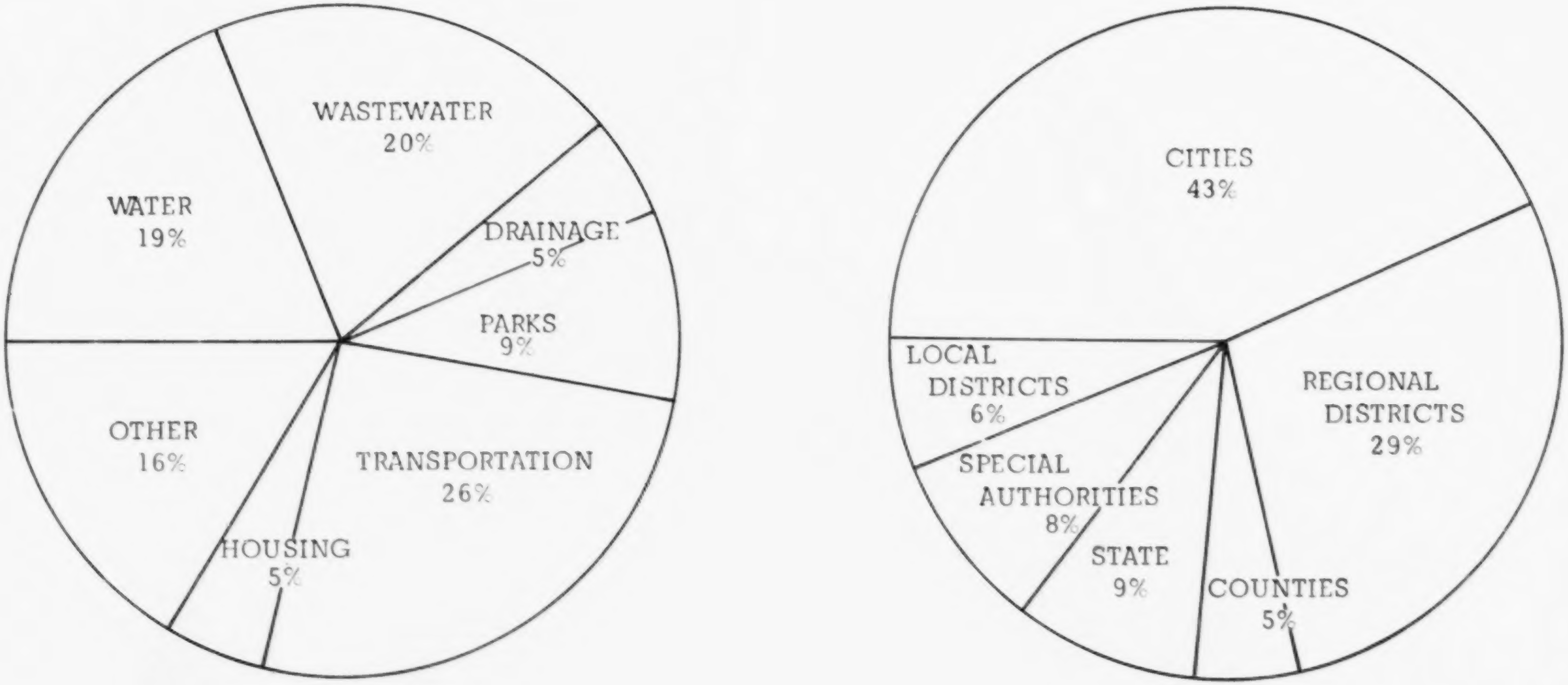


FIGURE 3

ACTUAL 1974 BUDGETED CAPITAL EXPENDITURES

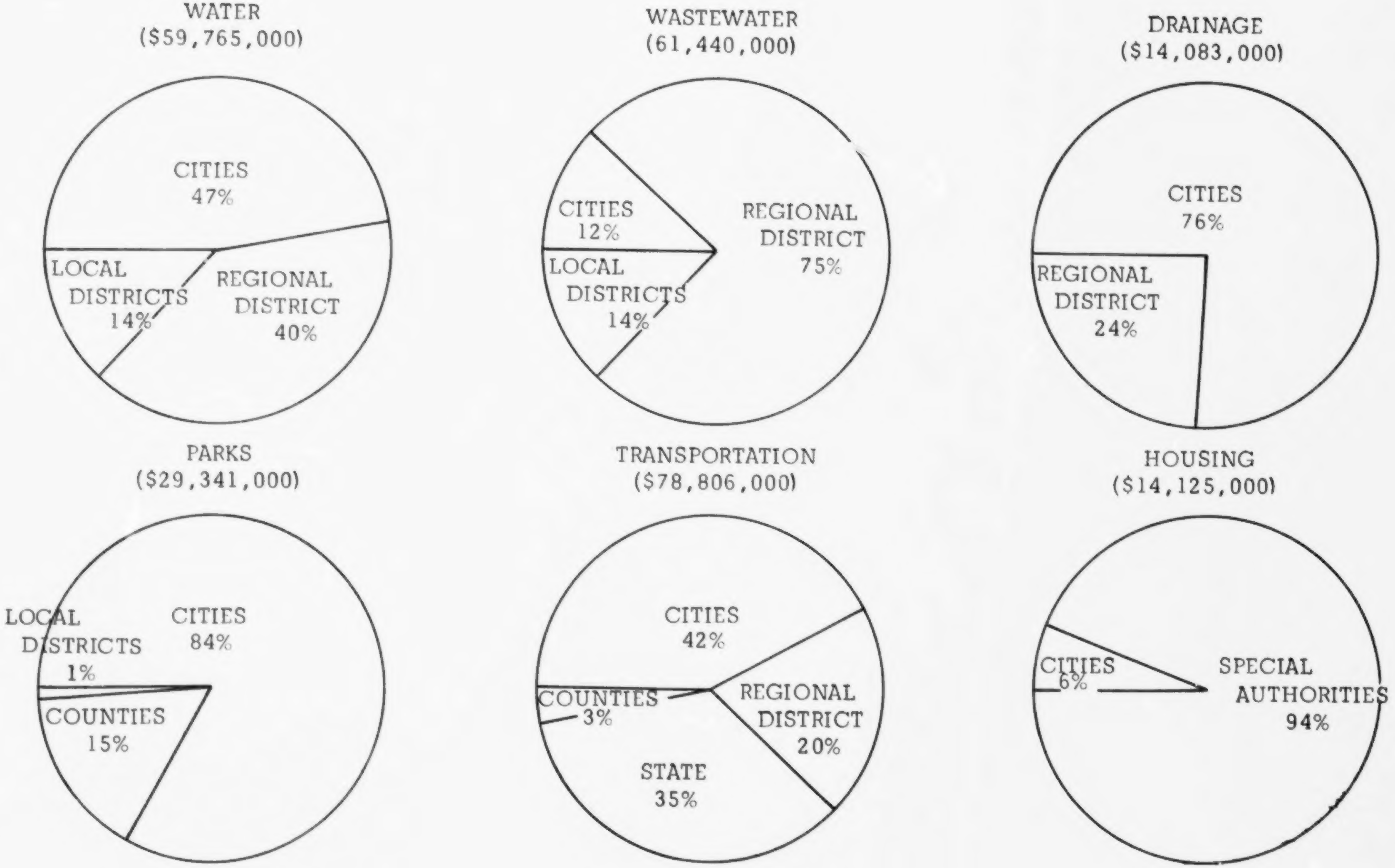
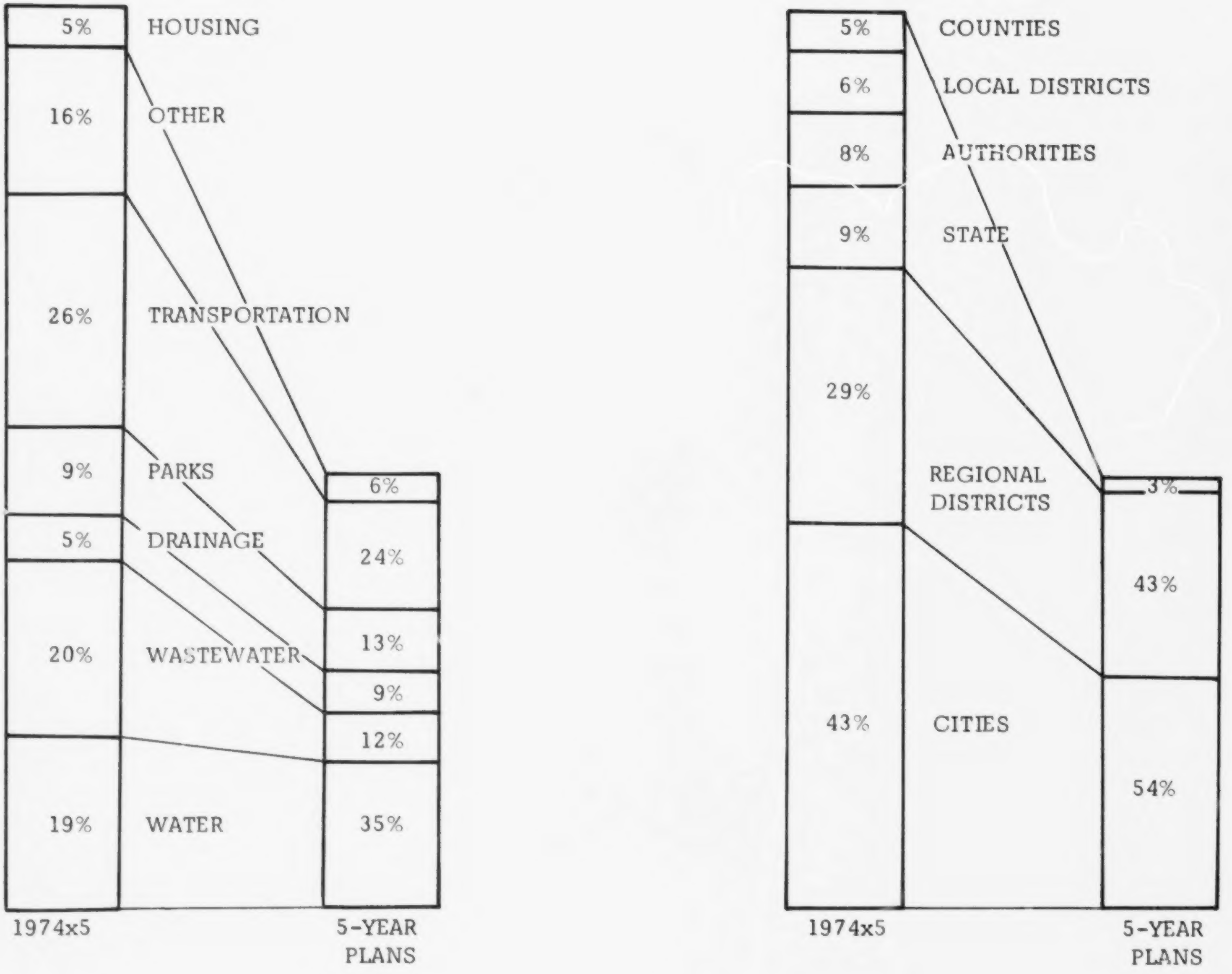


FIGURE 4

FIGURE 5

ACTUAL vs. PLANNED TOTAL EXPENDITURES



ACTUAL vs. PLANNED EXPENDITURES

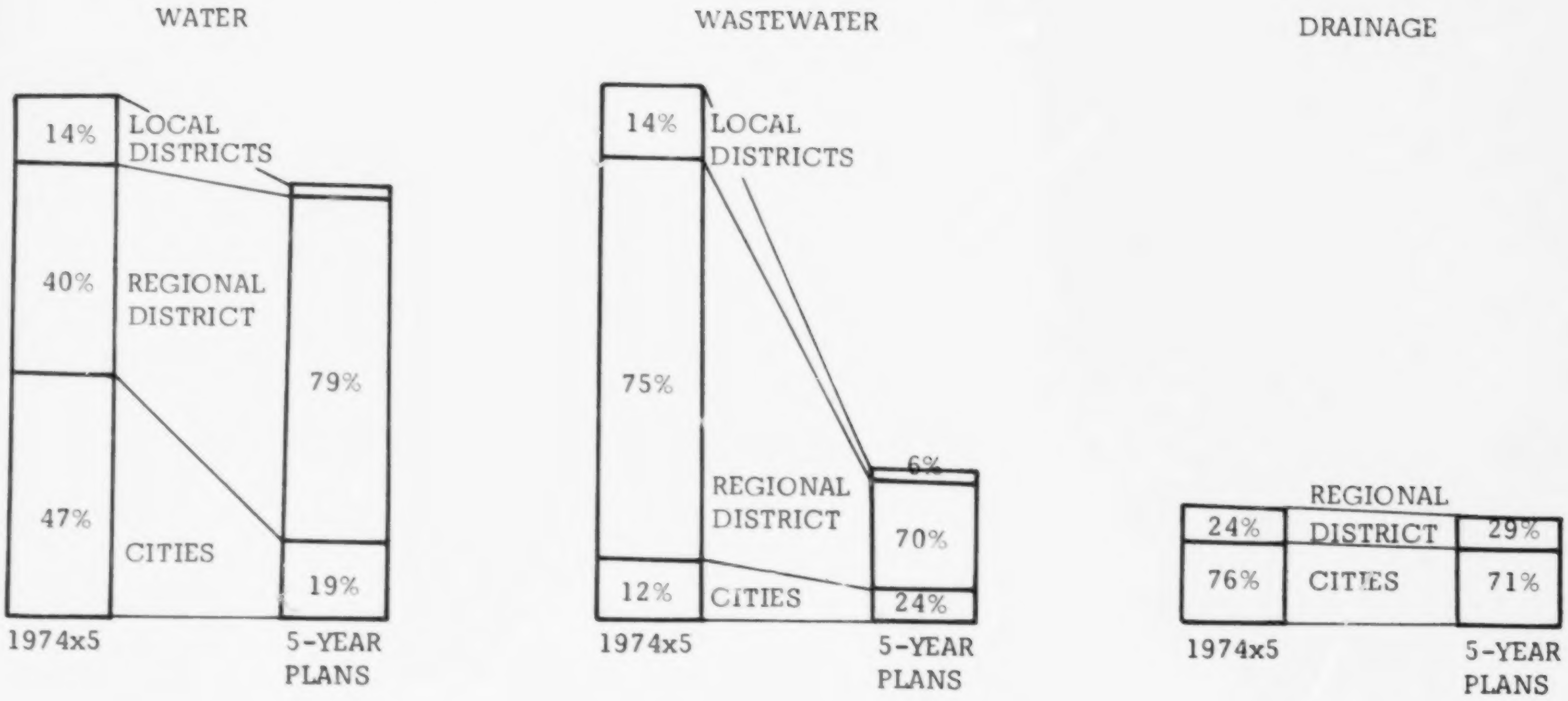


FIGURE 6

ACTUAL vs. PLANNED EXPENDITURES

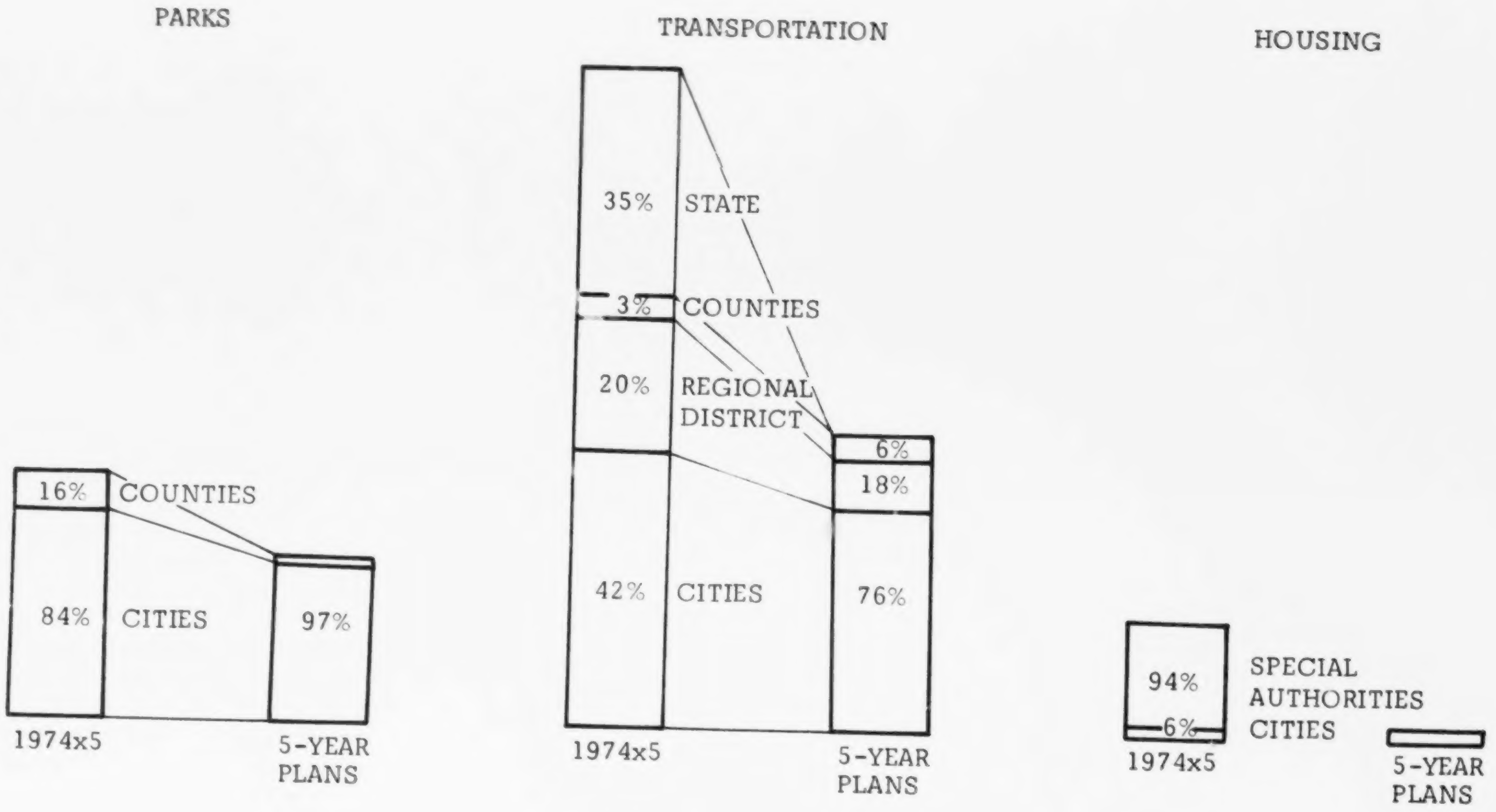
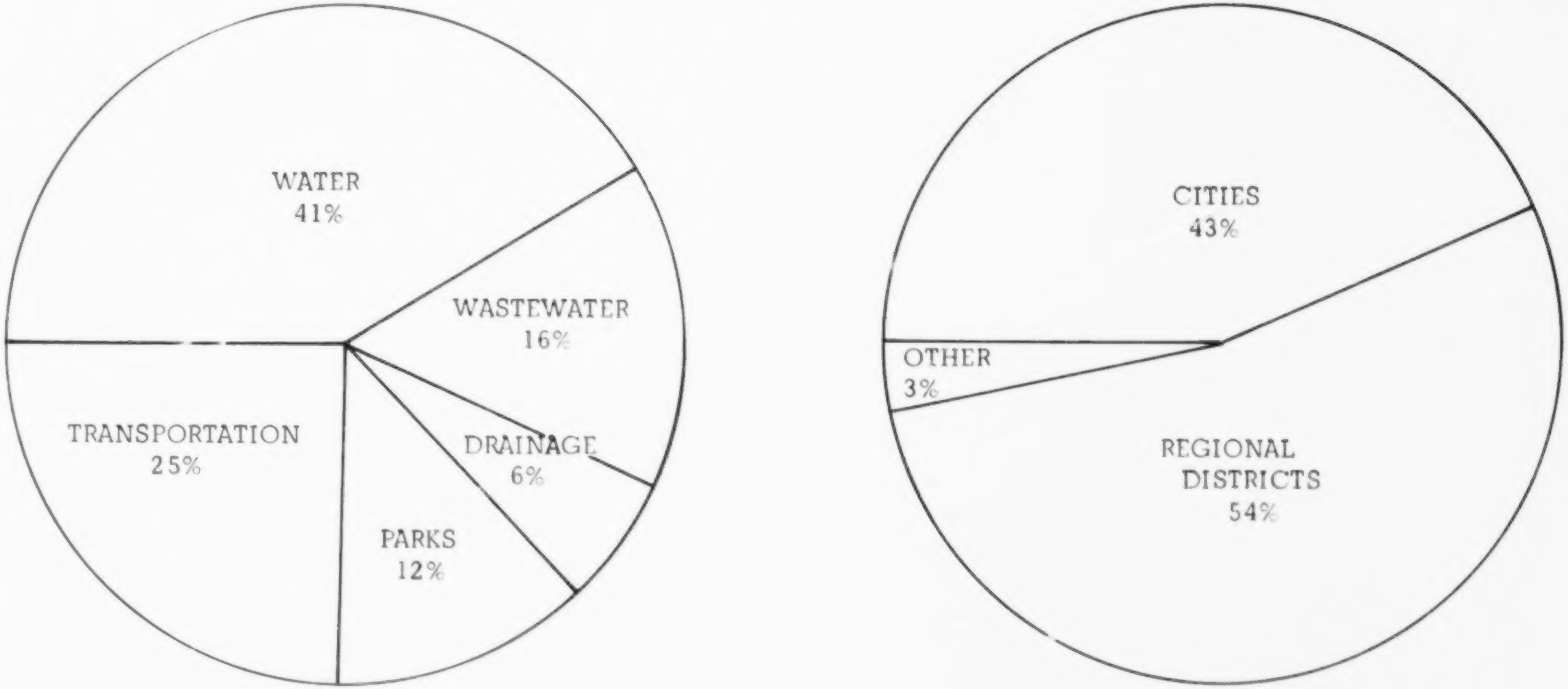


FIGURE 7

FIGURE 8

PLANNED 5-YEAR REGIONAL CAPITAL EXPENDITURES

TOTAL
($502,077,000)



PLANNED 5-YEAR REGIONAL CAPITAL EXPENDITURES

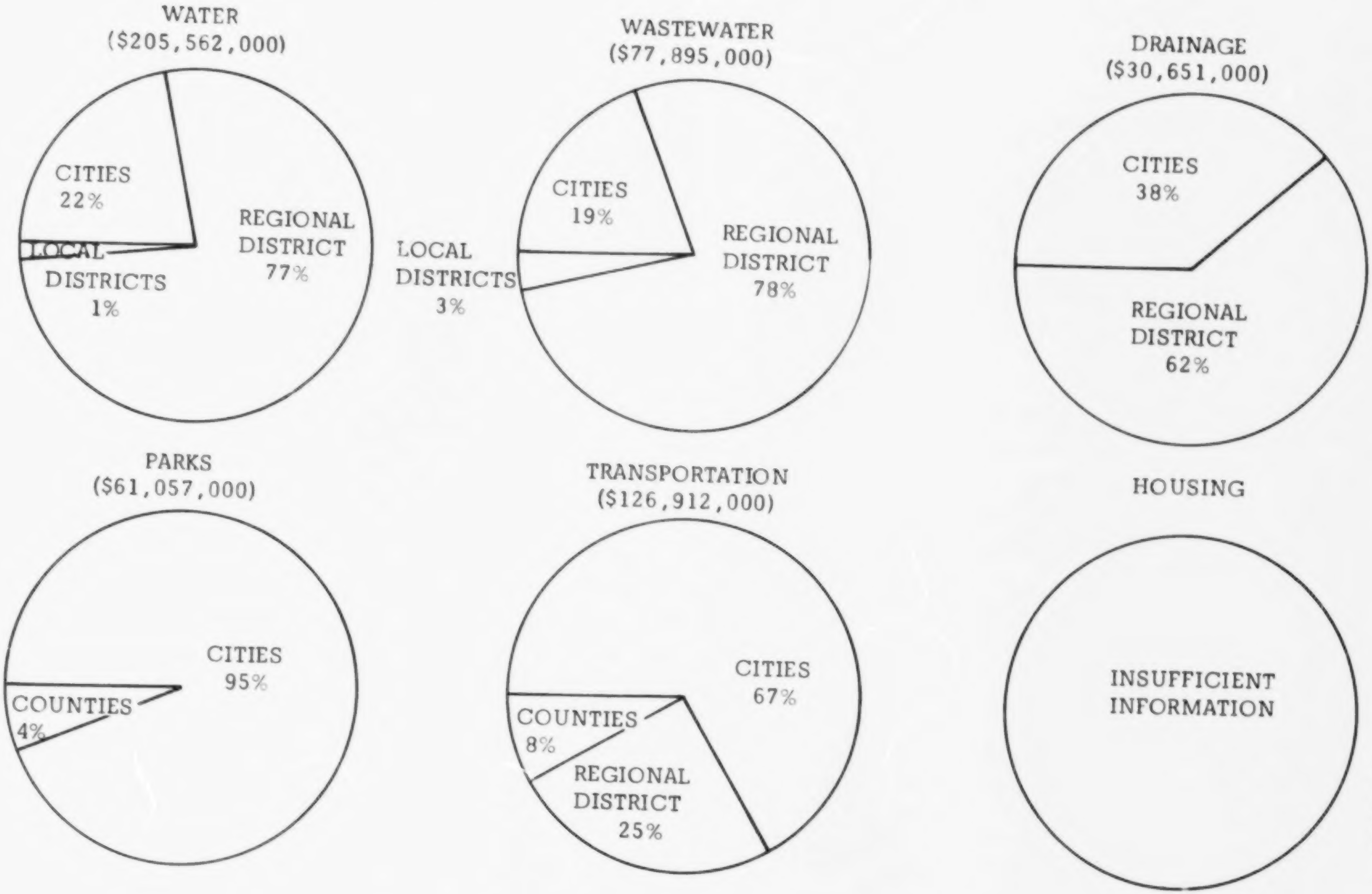


FIGURE 9

B. FUNCTIONAL AREA PROGRAMS

INTRODUCTION

Programs for each of the following Functional Areas are available:

- Water
- Wastewater
- Drainage
- Parks
- Transportation
- Housing

While each functional area is presented separately, the information which is provided conforms to a similar format:

- Summary
- Needs
- Funding Requirements
- Objectives
- Policies
- Selection Criteria
- Priority Criteria
- Priority List
- Program Summary

SUMMARY

The summary section provides a brief overview of each of the following sections of the program.

NEEDS

The basic intermediate-range needs of the region are summarized. The needs are listed in terms unique to the functional area in summary form as well as in a table.

FUNDING REQUIREMENTS

The funding requirements to meet the needs of the region for each functional area are presented in a format similar to the NEEDS section. Both a summarized statement as well as table are available.

OBJECTIVES

Adopted and implied objectives for the functional area, derived from various regional plans are summarized.

POLICIES

Adopted and implied policies for the functional area, as derived from the various regional plans are summarized.

Pages 65 and 66 are Blank.

SELECTION CRITERIA

Although each functional area uses a much more specific definition to determine "Regionality" of projects, the following general criteria were used as a basis for the development of the various selection criteria to select those projects considered to be regional in nature:

- Interjurisdictional Impact
    - Funded, operated or owned by more than one jurisdiction
    - Significant effect on government, citizens, development or environment of more than one local government
    - Extensive use by citizens of more than one local jurisdiction
- Regional Impact
    - Significant effect on any adopted areawide plan, system, program or policy

These general criteria were further defined for each functional area. For example, any Water project which relates to Raw Water Acquisition is classified as Regional in nature. These specific criteria are listed within each Functional Area Program.

PRIORITY CRITERIA

Regional improvement programming ultimately involves the setting of priorities among capital improvements to insure the allocation of scarce resources in accordance with adopted goals and policies.

The priority criteria to be used in the relative ranking of projects is intended to reflect those current objectives, policies and priority systems presently in use. An inventory of such existing systems was initiated:

- The existence of priority systems for all relevant functional areas is most desirable, because the development of a priority system would have previously considered the relationship of goals and policies to the immediate future program needs. It would remain the task of an RIP to apply the priority system to proposed projects and potentially compare and prioritize projects in an interfunctional manner.

- If priority systems have not been developed for functional areas, the existence of a current set of policies would substitute. Since it is likely that policies would be more general than a priority system, it follows that an analysis of the policies would be required to develop a sense of importance and sequencing of the policies for their use in the programming process.

- Goals are least helpful. They indicate a region's aims and, to a degree, its needs. They seldom offer the opportunity to move immediately to priority-setting without first developing policies. Goals are typically more general in nature than policies, but with some effort may be translated into policies which could be more fruitfully used in programming.

The results of this inventory were only marginally successful. Apparently no priority system in any of the functional areas is presently in use, with the possible exception of a limited system developed for use in Transportation Urban Systems allocations. Without the past development of ranking systems to serve as a base for the priority analysis, an extensive survey of existing objectives and policies was undertaken. The results of this survey are included in each of the functional area programs.

Based on the identified objectives and policies, one possible priority system was developed. While many possible solutions may be proposed, the fundamental decision rests with the actual decision maker. As this project is only intended to be of a demonstrational nature, the accompanying priority criteria system is only one possible solution.

The system applied in this Regional Improvement Program uses a general point assignment to achieve relative ratings of projects. Seven basic criteria were developed to represent elements of the identified objectives and policies in each of the functional areas. By using a work sheet, points are assigned according to the extent that the project:

REGIONAL PLAN

- is consistent with regional plans and programs

LOCAL COMMITMENT

- has the financial, technical, and political backing to be implemented in the near future

NEED

- alleviates identified needs in the specific functional area

EXTENT OF SERVICE

- will serve a major segment of the population

ENVIRONMENTAL IMPACT

- will benefit the environment, safety and public health

COST/BENEFIT RATIO

- reflects a good cost/benefit relationship

The point assignments and resulting priority rankings were accomplished as a demonstration of the application of the priority system. Should another system be developed as a result of more extensive analysis within a functional area, the process would remain roughly similar.

In the application of the criteria to projects for this Regional Improvement Program, an assignment of points was only made when sufficient information on a project existed. As a result, even with the use of a generalized system, many of the projects lacked a complete analysis and a definite advantage accrued to those projects with more complete information availability.

A matrix which displays the priority criteria is included, in addition to a sample work sheet which is used to total the points.

PRIORITY CRITERIA

CRITERIA	2 POINTS	1 POINT	0 POINTS
REGIONAL PLAN	Fully Consistent	Needs Special Consideration	Not Consistent
LOCAL COMMITMENT	Immediate Capability (1974)	Capable in Near Future (1975-76)	Capable in Distant Future (1977-80)
NEED	Alleviates Existing Problems or Deficiencies	Alleviates Potential Problems or Deficiencies	Serves Projected Development
EXTENT OF SERVICE	Major Segment of Population	Average Segment of Population	Minor Segment of Population
ENVIRONMENTAL IMPACT	Positive	Moderate	Negative
COST/BENEFIT RATIO	Good	Average	Poor

PRIORITY CRITERIA

WORK SHEET

PROJECT NUMBER	REGIONAL PLAN	LOCAL COMMITMENT	NEED	EXTENT OF SERVICE	ENVIRONMENTAL IMPACT	COST/BENEFIT RATIO	POLICY BOARD DISCRETION		TOTAL POINTS

PRIORITY LIST

The resulting priority list for each functional area denotes the relative priorities for each project, based on the total number of assigned points. The priority lists should be interpreted only as representative examples of the application of a sample priority system.

PROGRAM SUMMARY

The Program Summary section in each of the Functional Area Programs contains a summary table and charts which display summarized representations of expenditures within the functional area.

The table shows planned regional expenditures for the 5-year period for each of the implementing agencies in the functional area. The expenditures are staged over the period 1974-1979 to indicate relative outlays planned during each of the years.

The charts in the Program Summary show proportionate shares of expenditures. One chart shows the relative mix between implementing agencies in capital expenditures during the actual 1974 Budget Year. Another chart displays the mix for projected total expenditures during the 5-year RIP period. The third pie-chart shows the relative mix for projected expenditures on only those projects classified as regional, during the 5-year period.

WATER

SUMMARY

NEEDS

Water supply and distribution needs were defined in 1968 in an adopted Metropolitan Water Requirements and Resources plan. The plan outlines storage and treatment facilities. Local water distribution systems were not considered. A 265,000 acre foot increase in supply need was forecasted and water system needs in terms of capacity additions and physical needs were estimated and facilities sized for each local system for the three stages of development.

FUNDING REQUIREMENTS

Development of the water system was staged in three periods, 1968-74, 1975-89 and 1990-2010. The capital cost of the total system was estimated at $823.5 million, with the cost of major system components as follows:

Supply	$362.6 million
Treatment	131.3
Storage	29.2
Pumping	17.3
Transmission	283.1

The cost of the system components for each local service agency in the region was estimated by development period.

OBJECTIVES/POLICIES

Objectives and Policies for the Regional Water System were derived from a set of statements in Water Supply Criteria, adopted March 1973 by the Council.

SELECTION CRITERIA

The selection of projects determined to be "Regional" in nature was based on the following general criteria which was used to judge whether or not the project would have:

Interjurisdictional Impact

- Funded, operated or owned by more than one jurisdiction
- Significant effect on government, citizens, development or environment of more than one local government
- Extensive use by citizens of more than one local jurisdiction

Pages 74, 75 and 76 are Blank.

Regional Impact

- Significant effect on any adopted areawide plan, system, program or policy

The selection criteria was further defined in terms unique to the specific functional area of Water.

PRIORITY CRITERIA

The criteria used to determine relative priorities was developed in order to facilitate ranking among projects within the functional area of Water. In the absence of any adopted system in this area, the criteria used was derived from the adopted objectives and policies.

While the system used is deficient in many respects, it serves as a demonstration of the type of methodology to be applied in order to achieve a priority ranking.

WATER

NEEDS

- Future water supply requirements are expected to triple by the year 2010 and are estimated to reach 748,200 acre feet.
- The present water supply serving a population of 1,131,500 is more than adequate to meet current needs of the region and is considered adequate to serve projected population through the mid-1980's.
- While current regional water supply exceeds requirements by about 65%, the distribution of this supply among the 26 supply agencies is not balanced. The supply for some of these agencies will be less than that required to meet demands starting in the 1980's.
- The anticipated supply will be adequate for the Denver area under single management; that is, through the ability to share surplus supply among those of the 200 distributors in the region who will face shortages in the 1990 to 2010 period.
- The Boulder service area will be short in 1990, based on presently known sources of supply, unless additional supplies can be developed, or the area is brought under single supply management.
- Some smaller agencies will have a deficit by 1975 with little possibility for development of needed supply.
- A proposed regional system could double storage capacity and provide 2 1/2 times as much treatment and pumping capacity as the existing multiple systems to meet future water needs in 2010.
- Per Capita consumption of water in the region currently averages 203 gallons per capita per day (gcd) and is forecasted to reach 249 gcd in 2010.
- With an areawide raw water supply and areawide management of the physical system for at least each of the Boulder and Denver areas, anticipated deficits in supply could be overcome and demand reduced to the point that even the available supply might meet requirements in 2010.

TABLE 17

WATER

PLANNING AREA	Existing 1968 System	SYSTEM NEEDS 1968-75	1976-90	1991-10	TOTAL 2010 System
MOUNTAIN					
Supply*	5		(-1)		4
Treatment**	2		4	2	8
Storage***	1		1	1	3
Pumping**		1	7	6	14
BOULDER					
Supply	30	22	10	12	74
Treatment	56	37	54	64	211
Storage	45	27	16	13	101
Pumping	1	49	44	66	160
DENVER					
Supply	393	37	138	148	715
Treatment	618	137	310	420	1485
Storage	377	75	85	160	697
Pumping	821	243	344	473	1881
TOTAL WATER					
Supply	429	59	147	160	793
Treatment	676	174	368	486	1704
Storage	423	102	102	174	801
Pumping	822	293	395	545	2055

---

*Supply in thousands of acre feet

**Treatment and Pumping in millions of gallons per day

***Treated Water Storage in millions of gallons

WATER

FUNDING REQUIREMENTS

- The present value of the existing water system, including land and water rights has been estimated to exceed $245 million. The magnitude of funding to develop the regional water system is such that the investment to meet the demand for water service in 2010 will be over three times that required to develop the water system during the past 100 years.

- Unit costs were applied to the major components of the water system - supply treatment, pumping, storage, and transmission - on a uniform basis to estimate system funding requirements. The cost estimates are for supply and the physical system, and do not include installation costs, the cost of distribution and individual service facilities, which are the responsibility of the developer or individual home owner.

- New water supply, at an average acquisition cost of almost $1,000 per acre foot, and transmission facilities are the most costly elements of the water system. Treated water improvements lend themselves to staging and are usually simpler and less costly to implement than water supply. The cost of needed supply is estimated at almost $363 million over a 42 year period. Lower consumption rates and use of water could significantly reduce the cost of the regional water system.

- While the cost of supply would be somewhat lower with a total areawide raw water supply management agency, the cost of complete system integration for the Boulder and Denver areas is higher than for the geographically divided Boulder and Denver service systems. The comparative costs are approximately $860 million for a single system, $825 million for geographically grouped systems and $899 million for the continuation of independent supply, treatment and distribution agencies.

TABLE 18

WATER

FUNDING REQUIREMENTS
(Thousands of Escalated 1968 Dollars)

PLANNING AREA	1968-75*	1976-90**	1991-10**	TOTAL
MOUNTAIN				
Supply	-	-	-	-
Treatment	-	800	400	1,000
Storage	-	-	100	200
Pumping	-	200	100	300
Transmission	500	500	1,300	2,300
Total Mountain	500	1,500	1,900	3,900
BOULDER				
Supply	15,400	10,300	12,700	38,400
Treatment	5,700	11,100	12,600	29,400
Storage	1,800	1,500	800	4,100
Pumping	500	700	1,100	2,300
Transmission	6,300	12,800	15,300	34,400
Total Boulder	29,700	36,400	42,400	108,500
DENVER				
Supply	25,500	131,100	167,600	324,200
Treatment	13,600	38,600	48,800	101,000
Storage	5,300	6,800	12,900	25,000
Pumping	3,700	4,600	6,400	14,700
Transmission	42,300	100,100	99,800	247,200
Total Denver	95,400	281,200	335,500	712,100
TOTAL WATER				
Supply	40,800	141,500	180,300	362,600
Treatment	19,300	50,400	61,800	131,500
Storage	7,100	8,400	13,800	29,300
Pumping	4,300	5,400	7,600	17,300
Transmission	54,100	113,400	116,300	283,800
Total	125,600	319,100	379,800	824,500
ADJUSTED TOTALS				
De-escalated	104,667	226,312	269,362	600,341
1973 Dollars	135,020	291,942	347,477	774,440

---

*Inflation Factor 1.20
**Inflation Factor 1.41

WATER

OBJECTIVES

● The provision of sufficient water of appropriate quality to meet human, environmental, recreational, industrial and other water related needs and desires of residents of the Denver region;

● The acquisition by public agencies of water rights sufficient to meet anticipated regional needs and desires;

● The conservation of water at its sources, and prevention of waste during water use;

● The use of potable water for potable uses, and water of less than potable quality for other uses, as appropriate and economically feasible;

● The provision of water supply reserve for human and economic use in drought periods, based upon water normally used for non-agricultural irrigation and regional environmental enhancement;

● The maximum reuse of water, within the limitation of legal, technical, and economic constraints;

● The attainment of prevailing potable standards for water intended for human use, and prevailing standards for other uses;

o The assurance of an adequate availability of water supplied and maximum efficiency in the utilization of those supplies for the entire region;

o The provision of continuity in the relationships of municipal water supply to long range planning objectives for the entire South Platte River Basin.

● Water Supply Criteria, DRCOG. Adopted March 1973.

o The Regional Development Plan, DRCOG.

WATER

POLICIES

● Water supply planning, facility design and financing shall be compatible with comprehensive regional plans, particularly those related to management of the region's water resources;

● Water supply plans shall be prepared and kept up to date for the region and for sub-regional areas, as appropriate;

● Maximum feasible use shall be made of available South Platte River Basin, or east slope water resources;

● Environmental and ecological values of areas involved in water diversion, transmission, treatment, distribution and use shall not be diminished, except as necessary and unavoidable, and in that event any adverse effects shall be minimized;

● Water supply shall not be used as the sole basis for stimulating or constricting development;

● All current statutory and regulatory requirements related to water supply shall be met or exceeded;

● The cost of water rights and water transmission, storage treatment, and distribution to prevailing standards shall be equitably borne by water users under a full cost of service concept;

● The quality of raw water shall be protected by watershed management;

● Water treatment facilities shall be operated by properly certified operators;

● Residues from water treatment shall be disposed of so as to minimize land, air, and water pollution;

● Water supply and pressure shall be adequate to meet prevailing fire fighting requirements and standards;

○ Potable water may serve any political or jurisdictional entity, regardless of the source of the water;

○ Service shall be provided throughout the region as indicated by projected population growth and distribution;

○ Water shall be delivered to domestic and industrial users throughout the region with rate equity and common use regulation;

- Maximum utilization shall be made of all existing supplies and treated water sources, terminal storage, pumping plants, and system integration;

- Existing treatment, storage and pumping facilities shall combine to supply local areas until the installation of areawide facilities and their accompanying economies of size can be achieved.

- Water Supply Criteria, DRCOG. Adopted March 1973

- The Regional Development Plan, DRCOG.

WATER

SELECTION CRITERIA

A Capital Improvement Project in this functional area is considered Regional in nature if the project may be classified as involving any of the following categories:

- Raw Water
  - Raw Water Acquisition
  - Raw Water Storage
- Treatment/Storage
  - Water Treatment Facilities
  - Clear Water Storage
- Transmission
  - Pumping
  - Water Mains

WATER

PRIORITY CRITERIA

CRITERIA	2 POINTS	1 POINT	0 POINTS
REGIONAL PLAN	Fully Consistent	Needs Special Consideration	Not Consistent
LOCAL COMMITMENT	Immediate Capability (1974)	Capable in Near Future (1975-76)	Capable in Distant Future (1977-80)
NEED	Alleviates Existing Problems or Deficiencies	Alleviates Potential Problems or Deficiencies	Serves Projected Development
EXTENT OF SERVICE	Major Segment of Population	Average Segment of Population	Minor Segment of Population
ENVIRONMENTAL IMPACT	Positive	Moderate	Negative
COST/BENEFIT RATIO	Good	Average	Poor

WATER

PRIORITY CRITERIA

WORK SHEET

PROJECT NUMBER		REGIONAL PLAN	LOCAL COMMITMENT	NEED	EXTENT OF SERVICE	ENVIRONMENTAL IMPACT	COST/BENEFIT RATIO	POLICY BOARD DISCRETION		TOTAL POINTS
Arvada	1		2		2					4
	2		2		2					4
Aurora	3		2		2					4
	4		2		2					4
	5		0		2					2
	6		1		2					3
	7		1		2					3
	8		0		2					2
	9		2		2					4
	10		0		2					2
	11		2		2					4
	12		2		2					4
	13		2		1					3
	14		1		1					2
	15		2		0					2
	16		2		0					2
	17		1		0					1
Boulder	18		2		2					4
	19		0		2					2
	20		2		2					4
	21		0		2					2
	22		2		2					4
	23		2		2					4
	24		2		2					4
	25		0		2					2
	26		2		2					4
	27		2		2					4
	28		0		2					2
	29		2		1					3
	30		0		1					1
	31		0		1					1
	32		0		1					1
Brighton	33		1	2	2					5
	34		1		2					3
	35		1	2	2					5
Glendale	36		2		2					4
Golden	37		0	1	2					3
	38		2		2					4
	39		1		2					3
	40		1		2					3

WATER

PRIORITY CRITERIA

WORK SHEET

PROJECT NUMBER		REGIONAL PLAN	LOCAL COMMITMENT	NEED	EXTENT OF SERVICE	ENVIRONMENTAL IMPACT	COST/BENEFIT RATIO	POLICY BOARD DISCRETION		TOTAL POINTS
Louisville	41		0		2					2
North T. Mtn.	42		0		2					2
	43		0		2					2
Ken-Caryl	44		2		2					4
	45		2		2					4
	46		2		1					3
	47		2		0					2
	48		1		0					1
Denver Water	49		2		2					4
	50		2		2					4
	51		2		2					4
	52		2		2					4
	53		2		2					4
	54		2		2					4
	55		2		2					4
	56		2		2					4
	57		2		2					4
	58		2		2					4
	59		2		2					4
	60		1		2					3
	61		1		2					3
	62		2		2					4
	63		2		2					4
	64		2		2					4
	65		2		2					4
	66		2		2					4
	67		2		2					4
	68		2		2					4
	69		2		2					4
	70		2		2					4
	71		2		2					4
	72		2		2					4
	73		2		2					4
	74		2		2					4
	75		2		2					4
	76		1		2					3
	77		2		2					4
	78		1		2					3
	79		2		2					4
	80		2		2					4

WATER

PRIORITY CRITERIA

WORK SHEET

PROJECT NUMBER	REGIONAL PLAN	LOCAL COMMITMENT	NEED	EXTENT OF SERVICE	ENVIRONMENTAL IMPACT	COST/BENEFIT RATIO	POLICY BOARD DISCRETION		TOTAL POINTS
81		2		2					4
82		2		2					4
83		2		2					4
84		2		2					4
85		2		2					4
86		2		2					4
87		1		2					3
88		2		2					4
89		1		2					3
90		2		2					4
91		1		2					3
92		2		2					4
93		2		2					4
94		2		2					4
95		2		2					4
96		2		2					4
97		2		2					4
98		1		2					3
99		2		2					4
100		2		2					4
101		1		2					3
102		1		2					3
103		2		2					4
104		2		2					4
105		1		2					3
106		2		2					4
107		2		2					4
108		2		2					4
109		2		2					2
110		0		2					2
111		1		1					3
112		1		1					2
113		1		1					2
114		1		1					2
115		0		1					1
116		2		1					3
117		1		1					2
118		2		1					3
119		2		1					3
120		2		1					3

WATER

PRIORITY CRITERIA

WORK SHEET

PROJECT NUMBER	REGIONAL PLAN	LOCAL COMMITMENT	NEED	EXTENT OF SERVICE	ENVIRONMENTAL IMPACT	COST/BENEFIT RATIO	POLICY BOARD DISCRETION		TOTAL POINTS
121		2		1					3
122		1		1					2
123		1		1					2
124		1		1					2
125		1		1					2
126		2		0					2
127		1		0					1
128		1		0					1
129		1		0					1
130		2		0					2
131		2		0					2
132		2		0					2
133		2		0					2
134		2		0					2
135		2		0					2
136		1		0					1
137		1		0					1
138		1		0					1

WATER

PRIORITY LIST

Points	Project (Project Number) Agency	Total Cost (000's)
5	Wells (33) Brighton	150
5	Water Storage (35) Brighton	1,300
4	Ditch Water Rights (1) Arvada	5
4	Treatment Plant (2) Arvada	42
4	Water Rights (3) Aurora	2,220
4	Spinney Mountain Dam (4) Aurora	11,500
4	North Area Clear Water Storage (9) Aurora	750
4	Otero Pump Station (11) Aurora	2,000
4	North Area Booster Pump (12) Aurora	375
4	Water Rights (18) Boulder	400
4	Arapahoe Reservoir (20) Boulder	30
4	North Terminal Reservoir (22) Boulder	20
4	Boulder Reservoir Spillway (23) Boulder	500
4	Boulder Reservoir Feeder (24) Boulder	200
4	Water Treatment Wasts (26) Boulder	195
4	Betasso Plant Expansion (27) Boulder	2,590
4	Concrete Reservoir (36) Glendale	350
4	Treatment Plant Expansion-B (38) Golden	432
4	Storage Tanks (44) Ken-Caryl District	820
4	Booster Stations (45) Ken-Caryl District	270
4	Bear Creek - Phase I (49) Denver Water	714
4	Bear Creek - Phase II (50) Denver Water	1,515
4	North Fork South Platte (51) Denver Water	452
4	Fraser-Williams Fork (52) Denver Water	5,581
4	Eagle-Piney Project (53) Denver Water	7,787
4	Water Rights (54) Denver Water	1,354
4	Research & Development (55) Denver Water	3,4[illegible]6
4	Eleven Mile Outlet (56) Denver Water	[illegible]
4	Roberts Tunnel (57) Denver Water	[illegible]
4	Gross Dam (58) Denver Water	1,[illegible]1
4	Antero Dam (59) Denver Water	250
4	High Line Canal (62) Denver Water	511
4	Slocum Gulch (63) Denver Water	225
4	Soda Lake Outlet (64) Denver Water	88
4	City Ditch Alternate (65) Denver Water	170
4	Foothills Intake Dam (66) Denver Water	15,761
4	Foothills Tunnel (67) Denver Water	14,730
4	Moffat Treatment Plant (68) Denver Water	891
4	North Side Marston (69) Denver Water	300

4	Demonstration Plant (70) Denver Water	3,005
4	J-M Project (71) Denver Water	387
4	Research and Development (72) Denver Water	1,457
4	Foothills Treatment Plant (73) Denver Water	10,219
4	Highlands Clear Water Storage (74) Denver Water	160
4	56th Avenue Clear Water Storage (75) Denver Water	1,863
4	Green Mountain Storage (77) Denver Water	486
4	Green Mountain Storage (79) Denver Water	1,012
4	West Belleview Storage (80) Denver Water	584
4	Marston Pumps (81) Denver Water	299
4	Kendrick Pump (82) Denver Water	127
4	Hillcrest Pumps (83) Denver Water	83
4	Broomfield Pumps (84) Denver Water	1,585
4	56th Avenue Pumps (85) Denver Water	1,243
4	West Belleview Pumps (86) Denver Water	584
4	Green Mountain Pumps (88) Denver Water	457
4	6th Avenue Pumps (90) Denver Water	518
4	Conduit #27-1 (92) Denver Water	15,541
4	Conduit #27-2 (93) Denver Water	6,709
4	Conduit #94-1 (94) Denver Water	5,630
4	Conduit #94-2 (95) Denver Water	5,864
4	Conduit #94-3 (96) Denver Water	5,934
4	Conduit #28 (97) Denver Water	1,650
4	Conduit #109 (99) Denver Water	1,010
4	Conduit #109-2 (100) Denver Water	1,014
4	Conduit - County Line (103) Denver Water	2,924
4	Conduit - 72nd/Quebec (104) Denver Water	3,400
4	Conduit #55-1 (106) Denver Water	34
4	Conduit #96 (107) Denver Water	70
4	Conduit #81 (108) Denver Water	90
4	Conduit #55-2 (109) Denver Water	1,216
3	Kuiper Treatment Plant (6) Aurora	74
3	E. Hampden Plant (7) Aurora	1,400
3	Conduit - Potomac Avenue (13) Aurora	556
3	Maxwell Reservoir Main (29) Boulder	125
3	Water Treatment (34) Brighton	2,500
3	Beaver Brook Reservoir (37) Golden	200
3	Treatment Plant Expansion - C (39) Golden	206
3	Southridge Water Tank (40) Golden	125
3	J-M Supply Main (46) Ken-Caryl District	475
3	Dillon Dam Outlet (60) Denver Water	50
3	Ralston Dam (61) Denver Water	50
3	Southgate Clear Water Storage (76) Denver Water	1,483
3	6th Avenue Clear Water Storage (78) Denver Water	483
3	Moffat Pumps (87) Denver Water	1,069
3	Highlands Pumps (89) Denver Water	1,069

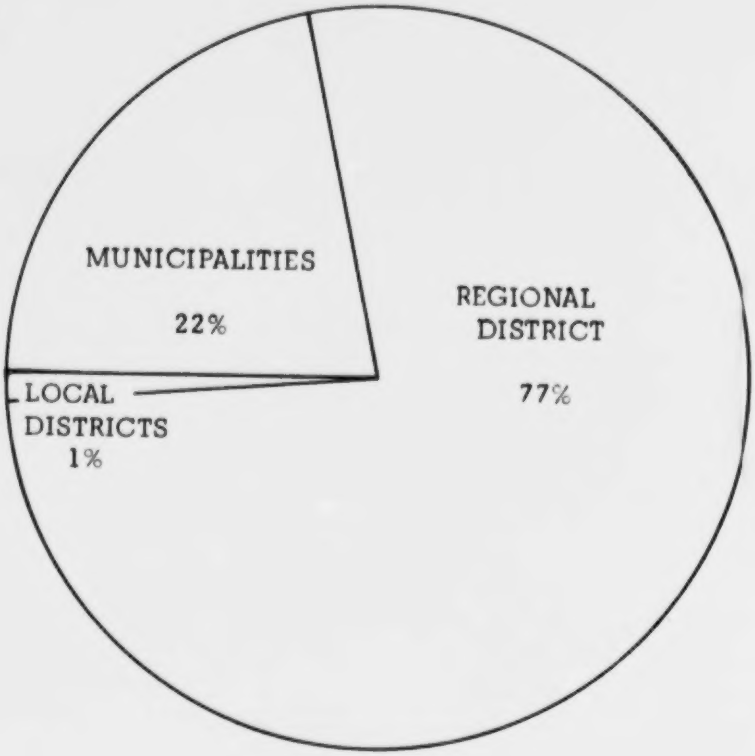
3	Southgate Pumps (91) Denver Water	443
3	Conduit #10 (98) Denver Water	1,292
3	Conduit - Carr (101) Denver Water	625
3	Conduit - Ken-Caryl (102) Denver Water	1,679
3	Conduit - Ken-Caryl (105) Denver Water	1,399
3	Conduit #102-1 (111) Denver Water	622
3	Conduit #93 (112) Denver Water	758
3	Conduit #107 (116) Denver Water	237
3	Conduit - Highlands (118) Denver Water	766
3	Conduit #102-2 (119) Denver Water	677
3	Conduit - Franklin (120) Denver Water	467
3	Conduit #106 (121) Denver Water	592
2	Rampart Pipe Line (5) Aurora	1,600
2	Treatment Plant No. II (8) Aurora	100
2	Kuiper Treated Water Storage (10) Aurora	1,000
2	Conduit - Alameda (14) Aurora	1,056
2	Conduit - Buckley (15) Aurora	185
2	Conduit - Buckley (16) Aurora	154
2	Six Cities Project (19) Boulder	2,800
2	Park Reservoir (21) Boulder	1,500
2	Boulder Reservoir Pump (25) Boulder	462
2	Chautaugua Water Main (28) Boulder	225
2	Regional Treatment Plant (41) Louisville	7,000
2	Ralston Reservoir Main (42) N. Table Mtn. District	100
2	Treatment Plant Expansion (43) N. Table Mtn.	1,000
2	Water Line (47) Ken-Caryl District	192
2	Conduit #55-3 (110) Denver Water	661
2	Conduit - Moffat (113) Denver Water	888
2	Conduit - Alameda (114) Denver Water	1,081
2	Conduit #74 (117) Denver Water	706
2	Conduit - Chambers (122) Denver Water	747
2	Conduit - Chambers (123) Denver Water	754
2	Conduit - 6th/Simms (124) Denver Water	1,193
2	Conduit #89 (125) Denver Water	448
2	Conduit #80-1 (126) Denver Water	550
2	Conduit #62 (130) Denver Water	14
2	Conduit #108 (131) Denver Water	30
2	Conduit #95-2 (132) Denver Water	278
2	Conduit - Tejon (133) Denver Water	103
2	Conduit #98 (134) Denver Water	549
2	Conduit - 30th/Julian (135) Denver Water	667
1	Conduit - North Area (17) Aurora	650
1	Chautauqua Water Main (30) Boulder	270
1	Broadway Water Main (31) Boulder	130

1	Iris Water Main (32) Boulder	200
1	Water Line (48) Ken-Caryl District	54
1	Conduit - 56th (115) Denver Water	718
1	Conduit #80-2 (127) Denver Water	895
1	Conduit - Buchtel (128) Denver Water	655
1	Conduit - Yale (129) Denver Water	308
1	Conduit - University (136) Denver Water	413
1	Conduit - Dartmouth (137) Denver Water	194
1	Conduit - Kendrick (138) Denver Water	525
TOTAL REGIONAL WATER		205,562

FIGURE 10

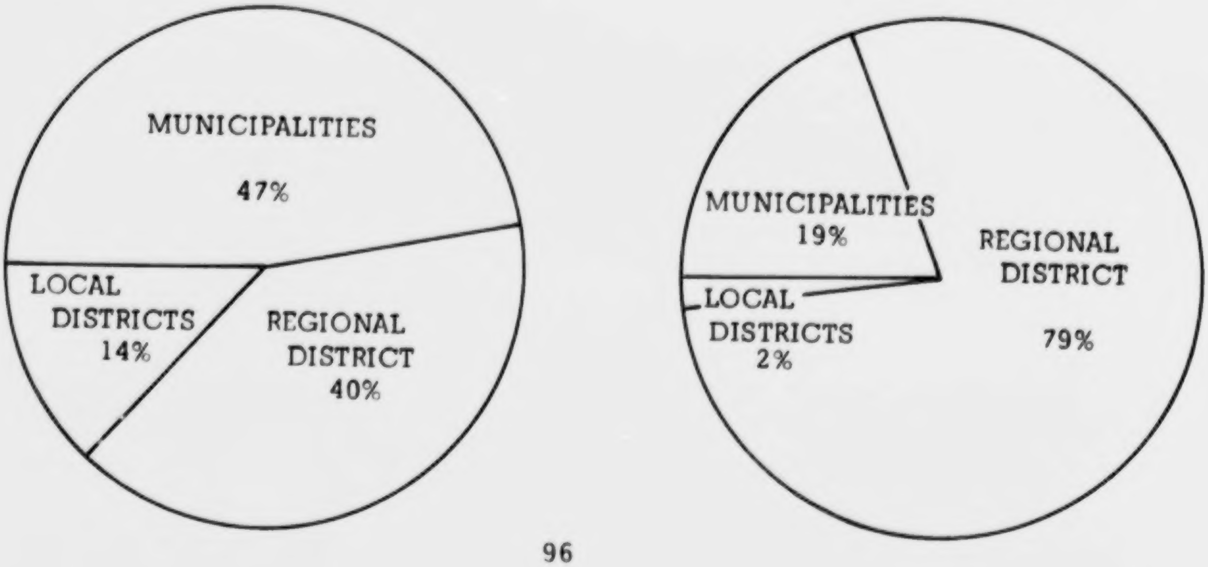
PLANNED
WATER
EXPENDITURES

5-YEAR
REGIONAL
PROJECTS
($205,562,000)



ACTUAL
1974 BUDGET
($ 59,765,000)

5-YEAR
TOTAL PROJECTS
($250,609,000)



CAPITAL IMPROVEMENT SUMMARY
(000's)

REGIONAL PROJECTS

FUNCTIONAL AREA Water

JURISDICTION Agency Summary

PROJECTS	1974	1975	1976	1977	1978	1979	ESTIMATED TOTAL COST
Municipalities							
*Arvada	47						47
*Aurora	3,314	9,906	5,650	2,250	2,500		23,620(12%)
*Boulder	1,172						9,647(5%)
Bow Mar							
*Brighton							3,950
Broomfield							
Cherry Hills							
Columbine Valley							
Commerce City							
Denver							
Edgewater							
Englewood							
Erie							
Federal Heights							
*Glendale	350						350
*Golden	432	125	103	203	100		963
Greenwood Village							
Jamestown							
Lafayette							
Lakewood							
Littleton							
Longmont							
*Louisville							7,000(3%)
Lyons							
Morrison							
Northglenn							
Sheridan							
Thornton							
Westminster							
Wheat Ridge							
Total Municipalities	5,315	10,031	5,753	2,453	2,600		45,577(22%)

CAPITAL IMPROVEMENT SUMMARY
(000's)

REGIONAL PROJECTS		**FUNCTIONAL AREA** Water **JURISDICTION** Agency Summary					
PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
Counties							
Adams County							
Arapahoe County							
Boulder County							
Jefferson County							
Total Counties							
Regional Special Districts							
*Denver Board of Water Commissioners	16,583	44,080	49,597	28,515	18,275		157,074(77%)
Local Special Districts							
Alameda							
Arapahoe Hills Water							
Bancroft							
Baseline Water							
Bear Creek							
Belleview Water							
Berkeley							
Boulder Valley							
Bow Mar							
Brook Forest Water							
Broomfield							
Brownsville							
Castlewood Water							
Cedar Crest Water							
Cherry Creek Valley							
Cherry Creek Village Water							
Cherry Hills Water							
Cherry Hills North							
Cherry Hills Rancho							
Cherry-Moor Water							
Cherry-Moor South							

CAPITAL IMPROVEMENT SUMMARY
(000's)

REGIONAL PROJECTS

FUNCTIONAL AREA Water

JURISDICTION Agency Summary

PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
Cherry Ridge							
Clear Creek Valley							
Clover							
College Park							
Cottonwood Water							
Crest Hill Water							
Crestview							
Devonshire							
East Belleview							
East Cherry Creek Valley							
Eastlake							
East Valley							
Fairways							
Florence Gardens Water							
Genessee							
Green Mountain Park							
Gunbarrel Estates							
Havana							
Hazeltine							
Highline Park							
Highview Water							
Hi-Lane Acres							
Hi-Lin							
Hillcrest							
Holly Hills							
Hoover Hill							
Idledale							
Indian Hills Water							
Industrial Park							
Inspiration Point							
Iverness							
Kelton Heights Water							

CAPITAL IMPROVEMENT SUMMARY
(000'S)

REGIONAL PROJECTS		FUNCTIONAL AREA Water					
		JURISDICTION Agency Summary					
PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
*Ken Caryl Ranch	1,302	384	125				1,811
Knollwood Water							
Lake Eldora							
Lakehurst							
Left Hand							
Leyden Water							
Littleton							
Lochmoor							
Lookout Mountain Water							
Mansfield Heights							
Mary Lou Water							
Meadowbrook Water							
Miller Heights Water							
Mountain							
North Boulder City							
Northgate Water							
North Lincoln							
North Pecos							
Northside							
*North Table Mountain							1,100
North Washington							
Olde Stage Water							
Orchard Hills Water							
Pine Acres							
Pine Brook Water							
Platte Canyon							
Pleasant View							
Ralston Valley							
Sable Water							
Scenic View							
Shannon							
Shaw Heights Water							

CAPITAL IMPROVEMENT SUMMARY
(000's)

REGIONAL PROJECTS

FUNCTIONAL AREA Water

JURISDICTION Agency Summary

PROJECTS	1974	1975	1976	1977	1978	1979	ESTIMATED TOTAL COST
South Adams County							
South Clarkson							
Southeast Englewood Water							
Southgate Water							
South Sheridan							
South Vallejo Water							
Southeast Boulder Water							
Southwest Cherry Hills Water							
Southeast Metro							
Standley Lake							
Strausburg							
Tamarac							
Valley Water							
Vassar Water							
Village Heights Water							
Wagoner Water							
Wah-Kenney Water							
West Cornell Water							
Westlake							
Westland Water							
Wheat Ridge Water							
Willowbrook							
Willows Water							
Total Local Special Districts	1,302	384	125				2,911(1%)
Total Regional Water	23,200	54,495	55,475	30,968	20,875		205,562(100%

WASTEWATER

SUMMARY

NEEDS

A system of wastewater treatment plants and interceptor lines to meet year 2000 needs has been defined in a regional Water Quality Management Plan which has been adopted by the Council. The plan outlines a long term need for:

(1) Four regional treatment plants (expansion of one existing plant and construction of three new plants).

(2) Four satellite plants (expansion of one existing plant and construction of three new plants).

(3) Construction of 395 miles of interceptor sewers.

The plan has been staged in two periods, 1974-85 and 1986-2000. A short term program for wastewater system development has not been prepared.

FUNDING REQUIREMENTS

Development of the regional wastewater system treatment plants and interceptors has been costed at $272.9 and $246.3 million, respectively, and development costs estimated by five year periods to the year 2000. Operating and maintenance costs were also estimated for each period.

OBJECTIVES/POLICIES

Objectives and Policies for the Regional Wastewater System were derived from a set of statements in Water Quality Management Criteria, adopted September, 1972 by the Council.

SELECTION CRITERIA

The selection of projects determined to be "Regional" in nature was based on the following general criteria which was used to judge whether or not the project would have:

Interjurisdictional Impact

- Funded, operated or owned by more than one jurisdiction
- Significant effect on government, citizens, development or environment of more than one local government
- Extensive use by citizens of more than one local jurisdiction

Pages 102, 103 and 104 are Blank.

Regional Impact

- Significant effect on any adopted areawide plan, system, program or policy

The selection criteria was further defined in terms unique to the specific functional area of Wastewater.

PRIORITY CRITERIA

The criteria used to determine relative priorities was developed in order to facilitate ranking among projects within the functional area of Wastewater. In the absence of any adopted system in this area, the criteria used was derived from the adopted objectives and policies.

While the system used is deficient in many respects, it serves as a demonstration of the type of methodology to be applied in order to achieve a priority ranking.

WASTEWATER

NEEDS

- As a result of accelerated growth in the Denver area, local governments have been unable to provide sufficient wastewater collection, treatment and disposal facilities to fully meet the needs of current and anticipated development in the region.
- Inadequate and overloaded wastewater treatment facilities have caused water pollution and half of the 34 existing facilities are unable to treat wastewater to the levels required to meet increasing stringent water quality standards.
- Additional problems include odor, transportation and landfill capacity concerns in sludge disposal.
- Major trunk sewers are presently overloaded, particularly along the South Platte River from the Metro plant in Commerce City south to Littleton.
- Some bypassing of wastewater from the combined sanitary and storm sewer system in downtown Denver to the South Platte River occurs during storms.
- Some sewers suffer from excessive water infiltration.
- Four regional and four satellite wastewater treatment plants would meet estimated sewerage demands in the year 2000 with capacity to serve 2,684,000.
- The proposed system would correct current deficiency in treatment plant capacity, alleviate and correct problems with the major trunk sewer system, provide service to growing areas of the region, meet defined future water quality and discharge standards established by federal and state governments, and allow a provision for upgrading the system to meet national water quality goals.
- Prior to the expansion of treatment facilities, a number of interim improvements are seen as necessary:
    - Flow equalization which would involve storage of wastewaters during peak flows and the release of those wastewaters for treatment during off peak periods;
    - The return of aeration basins from aerobic digestion of sludge back to secondary treatment which will then provide additional secondary treatment detention time;

- The addition of surface skimming devices to the existing secondary clarifiers;
- Continuation of the recently changed mode of operation of the secondary treatment aeration basins to contact stabilization for increasing secondary treatment capacilities;
- Continuation of replacement of the precision diffuser tubes with Flex-o-fusers in the aeration basins for the purpose of increasing oxygen transfer efficiency;
- The use of pure oxygen in some of the aeration basins which can provide increased solids destruction;
- Provision for increased disinfection by chlorination during peak flows;
- Active participation in a joint study with the City and County of Denver into the operation of the Denver North Side Treatment Plant to determine how operations can be improved, both in the immediate future and for ultimate operation;
- Development of improved vacuum filtration operation with the resultant reduction in the recycle load to the secondary treatment facilities; and
- Examination of post flocculation of secondary treatment flow during peak flow periods.

TABLE 21

WASTEWATER	Existing	SYSTEM NEEDS		TOTAL
PLANNING AREA	1970 System	1973-85	1986-00	2000 System
BOULDER				
NORTH				
CENTRAL				
SOUTH				
TOTAL WASTEWATER				
Regional WWTP*	1	1	2	4
Satellite WWTP*	1	3		4
Interim WWTP*	(6)	(1)		
Sewers**	XX	150	245	XX
Interim Lift Stations*			(2)	
Sludge Disposal***		3200	700	3900

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*Plants and Stations in actual numbers
**Major Trunk Sewers in miles
***Sludge Disposal Sites in acres

WASTEWATER

FUNDING REQUIREMENTS

- The capital costs of developing the regional wastewater system and the water quality surveillance component of the regional water quality management program have been estimated at $521 million. A little over a third of the capital cost is for expansion and construction of the four regional wastewater treatment plants, handling almost 85% of the treatment load in the region in the year 2000. Development of the regional major trunk sewer system requires $221 million or 43% of the total system capital cost. The cost of expansion and construction of satellite waste treatment plants, interim waste treatment plants for the first stage of system development, interim left stations and sludge disposal facilities, make up the remaining capital costs of the regional wastewater system. Development of the associated water quality surveillance system would cost $1.6 million.

- Operating and maintenance costs of the regional wastewater and surveillance system would reach $23.4 million per year by the year 2000.

- The total capital and general operating and maintenance costs of the proposed regional wastewater system over the 1973-2000 period would be $877.7 million. For comparison purposes, the cost of expanding and operating the existing, multi-plant system over the same period has been estimated at over one billion dollars.

- The staging of system development in 10 and 15 year periods with maximum flexibility provided by interim facilities holds the capital costs in the first ten-year period to approximately 40% or $221 million, of the total. Two-thirds of the major trunk sewer capital costs and over half of the cost of the regional wastewater treatment plants would be funded in the second 15 year development period.

- Wastewater system development costs in the Boulder, North and South Basin Service Areas range from $86.5 to $93.2 million. Deferral of regional treatment plant construction to the second development stage in the Boulder and North service areas holds the capital costs in the first period to less than 23% of total costs in these areas. Expansion and construction of regional and satellite plants in the Central and South areas to meet current and near term demands requires a proportionately larger investment during the first stage.

- Funding development of the wastewater system through long term bonds, plant investment or tap fees and utility service charges for operation and maintenance and debt service is proposed. The magnitude of capital cost funding requirements is such that federal and state grant assistance will be needed, particularly in the short term to meet current demands and abate water pollution. The proposed wastewater system provides expanded and advanced secondary treatment to meet anticipated water quality standards but does not include further treatment that would meet 1985 national goals of no pollution. Providing treatment to this advanced level would increase the capital cost of treatment plants by as much as 70% and require substantially higher plant investment fees even with federal and state grant assistance.

TABLE 22

WASTEWATER

FUNDING REQUIREMENTS
(Thousands of Escalated 1973 Dollars)

PLANNING AREA	1973-85*	1986-00*	TOTAL
BOULDER			
Regional WWTP			27,700
Satellite WWTP			4,900
Interim WWTP			4,300
Sewers			36,200
Interim Lift Stations			2,300
Sludge Disposal			11,100
Total Boulder	17,400	69,100	86,500
NORTH			
Regional WWTP			28,700
Satellite WWTP			16,000
Interim WWTP			4,600
Sewers			31,500
Interim Lift Stations			-
Sludge Disposal			7,700
Total North	20,300	68,200	88,500
CENTRAL			
Regional WWTP			68,100
Satellite WWTP			19,400
Interim WWTP			900
Sewers			120,300
Interim Lift Stations			22,500
Sludge Disposal			20,200
Total Central	134,800	116,600	251,400
SOUTH			
Regional WWTP			54,500
Satellite WWTP			-
Interim WWTP			-
Sewers			33,500
Interim Lift Stations			-
Sludge Disposal			5,200
Total South	48,300	44,900	93,200
TOTAL WASTEWATER			
Regional WWTP	84,400	94,600	179,000
Satellite WWTP	25,800	14,500	40,300
Interim WWTP	9,800	-	9,800
Sewers	76,100	145,400	221,500
Interim Lift Stations	-	24,800	24,800
Sludge Disposal	24,700	19,500	44,200
Total Metro Area	220,800	298,800	519,600
ADJUSTED TOTALS			
De-escalated	174,501	179,452	353,953

---

*4% compounded annually to middle of period (1.27/1.67 inflation factors

WASTEWATER

OBJECTIVES

● The prevailing wastewater collection, treatment, and discharge standards, and water quality management standards of local, state and federal agencies, consistent with available technology and financial resources;

● The physical capacity to collect and treat all domestic, municipal, and industrial wastewater generated in the metropolitan Denver region, with provision for expansion or modification of those facilities to meet future projected loads;

● The preservation or restoration of special wildlife, environmental and ecological features unique to a particular area;

● The recreational use and body contact standards for all streams and bodies of water in the region, as stated in regulations of the Colorado Water Control Commission;

● The potable water standards for all streams and bodies of water in the region from which raw water is withdrawn for potable uses, as stated in regulations of the Colorado Water Pollution Control Commission;

● The reuse of adequately treated wastewater, within limitations of downstream water rights;

o The development of a regional wastewater system planned, designed, constructed and operated with sewerage facilities to treat wastewater at levels that will meet anticipated water quality standards;

o The secondary treatment of all wastewater by 1977, "best practical" treatment by 1983, and compliance with the national goal of no water pollution from treatment plant discharge by 1985.

● Water Quality Management Criteria, DRCOG. Adopted September 1972.

o The Regional Development Plan, DRCOG.

WASTEWATER

POLICIES

- Water quality management planning and operations shall be compatible with comprehensive regional plans, particularly those related to management of the region's water resources;

- Water quality management plans shall be prepared and kept up to date for each wastewater major drainage basin;

- All prevailing statutory and regulatory requirements related to wastewater collection, treatment and discharge, and to water quality management shall be met or exceeded;

- Environmental qualities of areas involved in wastewater collection, treatment, and effluent discharge shall not be diminished, except as necessary and unavoidable, and in that event any adverse effects shall be minimized;

- The public shall be protected from discharges of untreated or inadequately treated wastewater in normal and peak operations;

- Industrial wastewater shall be treated to meet the same quantitative standards as is municipal or domestic wastewater;

- Wastewater collection and treatment facilities shall not be provided to stimulate development in unsuitable areas;

- Storm sewers and other surface water conveyance facilities shall not be used to convey or dispose of untreated or inadequately treated industrial, municipal, or domestic wastewater;

- The costs of wastewater collection and treatment to prevailing water quality standards shall be equally borne by the generators of wastewater in direct proportion to volume, and in relation to treatment requirements;

- Solid and liquid residues from wastewater treatment shall be disposed of so as to minimize or prevent land, air, and water pollution, and to maximize beneficial effects on environmental resources;

- Wastewater facilities shall be operated by properly certified operators.

● Water Quality Management Criteria, DRCOG. Adopted September 1972.

○ The Regional Development Plan, DRCOG.

WASTEWATER

SELECTION CRITERIA

A Capital Improvement Project in this functional area is considered Regional in nature if the project may be classified as involving any of the following categories:

- Treatment
  - Wastewater Treatment Facilities
  - Sludge Disposal Facilities
- Transmission
  - Lift Stations
  - Interceptor Sewers

WASTEWATER

PRIORITY CRITERIA

CRITERIA	2 POINTS	1 POINT	0 POINTS
REGIONAL PLAN	Fully Consistent	Needs Special Consideration	Not Consistent
LOCAL COMMITMENT	Immediate Capability (1974)	Capable in Near Future (1975-76)	Capable in Distant Future (1977-80)
NEED	Alleviates Existing Problems or Deficiencies	Alleviates Potential Problems or Deficiencies	Serves Projected Development
EXTENT OF SERVICE	Major Segment of Population	Average Segment of Population	Minor Segment of Population
ENVIRONMENTAL IMPACT	Positive	Moderate	Negative
COST/BENEFIT RATIO	Good	Average	Poor

WASTEWATER

PRIORITY CRITERIA

WORK SHEET

	PROJECT NUMBER	REGIONAL PLAN	LOCAL COMMITMENT	NEED	EXTENT OF SERVICE	ENVIRONMENTAL IMPACT	COST/BENEFIT RATIO	POLICY BOARD DISCRETION		TOTAL POINTS
Aurora	1		1		2					3
	2		1		2					3
	3		2		1					3
	4		2		1					3
	5		1		1					2
	6		1		1					2
	7		1		1					2
	8		0		1					1
	9		0		1					1
Boulder	10		2		2					4
	11		2		2					4
	12		0		2					2
	13		2		2					4
Brighton	14	1	0	2	2	1				6
Erie	15		0		2					2
	16		0		1					1
Glendale	17		2		2					4
Louisville	18		0		2					2
Ken-Caryl	19		1		2					3
N T Mtn	20		0		2					2
S. Adams Co.	21	1	2	2	2	2				9
Metro	22	2	2	2	2	2				10
	23	2	2	2	2	2				10
	24		1	1	2	2				6
	25	1	2	2	2	2				9
	26	2	2	2	2	2				10
	27	2	2	2	2	2				10
	28	2	2	2	1	1				8
	29	2	2	2	1	1				8
	30	2	1	2	1	1				7
	31	2	1	2	1	1				7
	32	2	1	2	1	1				7

TABLE 23

WASTEWATER

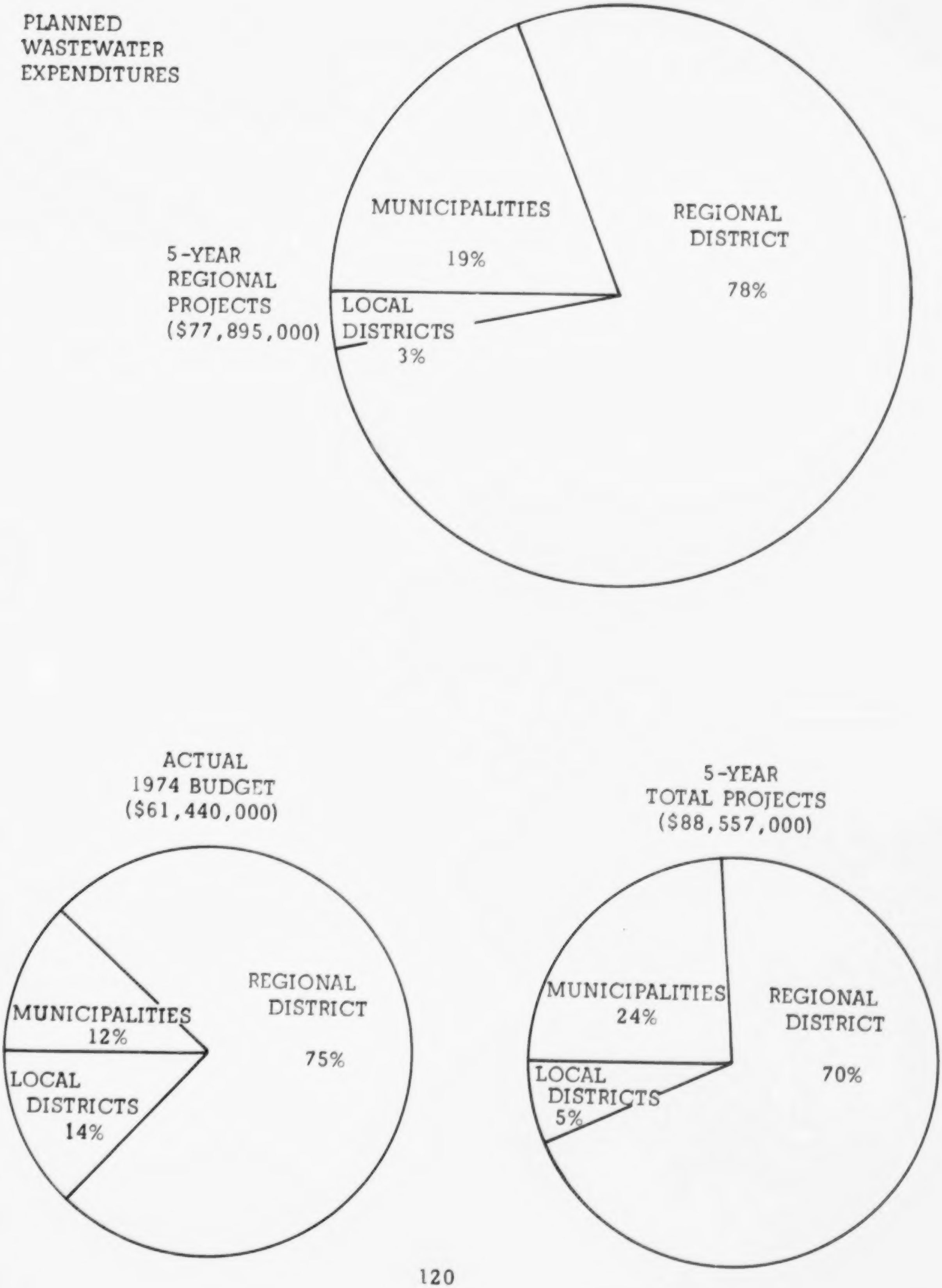
PRIORITY LIST

Points	Project (Project Number) Agency	Total Cost (000's)
10	Primary Treatment (22) Metro Sewage	3,830
10	Secondary Treatment (23) Metro Sewage	12,400
10	Liquid Sludge & Land Application (26) Metro Sewage	6,370
10	Thornton - Lift Station (27) Metro Sewage	55
9	Treatment Plant Expansion (21) S. Adams County	2,200
9	Anaerobic Digestion (25) Metro Sewage	5,760
8	Platte River II Interceptor (28) Metro Sewage	16,090
8	Weir Gulch Interceptor (29) Metro Sewage	450
7	Clear Creek Interceptor (30) Metro Sewage	3,900
7	Sand Creek Interceptor (31) Metro Sewage	2,300
7	Bear Creek Interceptor (32) Metro Sewage	500
6	Plant Expansion (14) Brighton	725
6	Advanced Wastewater Treatment (24) Metro Sewage	9,300
4	Effluent Chemical Processing (10) Boulder	125
4	Sludge Disposal R&D (11) Boulder	800
4	Sewer Plant Control System (13) Boulder	290
4	Treatment Plant Expansion (17) Glendale	740
3	Cherry Creek Lift Station (1) Aurora	375
3	Peoria Street Lift Station (2) Aurora	450
3	West Tollgate Interceptor (3) Aurora	456
3	Sky Ranch Interceptor (4) Aurora	462
3	Lift Stations (19) Ken-Caryl Ranch District	46
2	Cherry Creek Interceptor (5) Aurora	2,070
2	Sand Creek Interceptor (6) Aurora	320
2	East Tollgate Interceptor (7) Aurora	519
2	Advanced Waste Treatment (12) Boulder	1,000
2	Activated Sludge Plant (15) Erie	1,800
2	Regional Treatment Facility (18) Louisville	1,500
2	Sewer Pump Station (20) N. Table Mtn. District	60

1	S. Tollgate Interceptor (8) Aurora	1,200
1	Sand Creek - Tollgate Interceptor (9) Aurora	1,100
1	Interceptor (16) Erie	702
TOTAL REGIONAL WASTEWATER		77,895

FIGURE 11

PLANNED
WASTEWATER
EXPENDITURES



CAPITAL IMPROVEMENT SUMMARY
(000'S)

REGIONAL PROJECTS	FUNCTIONAL AREA Wastewater JURISDICTION Agency Summary						
PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
Municipalities							
Arvada							
*Aurora	918	1,534	2,200	2,300			6,952(9%)
*Boulder	130						2,215(3%)
Bow Mar							
*Brighton							725
Broomfield							
Cherry Hills							
Columbine Valley							
Commerce City							
Denver							
Edgewater							
Englewood							
*Erie							2,502(3%)
Federal Heights							
*Glendale	190		550				740
Golden							
Greenwood Village							
Jamestown							
Lafayette							
Lakewood							
Littleton							
Longmont							
*Louisville							1,500(2%)
Lyons							
Morrison							
Northglenn							
Sheridan							
Thornton							
Westminster							
Wheat Ridge							
Total Municipalities	1,238	1,534	2,750	2,300			14,634(19%)

CAPITAL IMPROVEMENT SUMMARY
(000's)

REGIONAL PROJECTS

FUNCTIONAL AREA Wastewater

JURISDICTION Agency Summary

PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
Counties							
Adams County							
Arapahoe County							
Boulder County							
Jefferson County							
Total Counties							
Regional Special Districts							
*Metropolitan Denver Sewage District	14,980	20,190	13,085	12,700			60,955(78%)
Local Special Districts							
Alameda							
Applewood Sanitation							
Arvada #3 Sanitation							
Baker Sanitation							
Bancroft							
Bear Creek							
Bel-Aire Sanitation							
Bennet Sanitation							
Berkeley							
Boulder Valley							
Bow Mar							
Broomfield							
Brownsville							
Castlewood Sanitation							
Cherry Creek Sports Afield Sanitation							
Cherry Creek Valley							
Cherry Hills North							
Cherry Hills Rancho							
Cherry-Moor South							
Cherry Ridge							
Cherry Vale Sanitation							

CAPITAL IMPROVEMENT SUMMARY
(000's)

REGIONAL PROJECTS

FUNCTIONAL AREA Wastewater

JURISDICTION Agency Summary

PROJECTS	1974	1975	1976	1977	1978	1979	ESTIMATED TOTAL COST
Clear Creek Valley							
Clover							
College Park							
Country Homes #1 Sanitation							
Crestview							
Daniel's Sanitation							
Devonshire							
East Belleview							
East Boulder Sanitation							
East Cherry Creek Valley							
East Jeffco Sanitation							
Eastlake							
East Lakewood Sanitation							
East Valley							
Evergreen Sanitation							
Fairways							
Federal Heights Sanitation							
Fruitdale Sanitation							
Genessee							
Goldsmith Gulch Sanitation							
Greenbelt Sanitation							
Green Mountain Park							
Gunbarrel Estates							
Havana							
Hazeltine							
Hi-Land Acres							
Highland Park Sanitation							
Highline Park							
Hi-Lin							
Hillcrest							
Holly Hills							
Hoover Hill							

CAPITAL IMPROVEMENT SUMMARY
(000's)

REGIONAL PROJECTS		FUNCTIONAL AREA Wastewater JURISDICTION Agency Summary					
PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
Idledale							
Industrial Park							
Inspiration Point							
Iverness							
Kelton Heights Sanitation							
*Ken Caryl Ranch		28	18				46
Kittredge Sanitation							
Lake Eldora							
Lakehurst							
Lakewood Sanitation							
Left Hand							
Littleton							
Littleton #7 Sanitation							
Littleton #10 Sanitation							
Lochmoor							
Lyons Sanitation							
Mansfield Heights							
Morrison Sanitation							
Mountain							
Mountain Sanitation							
Niwot Sanitation							
North Boulder City							
North Evergreen Sanitation							
North Lincoln							
North Pecos							
Northside							
*North Table Mountain							60
North Washington							
Northwest Lakewood Sanitation							
Pine Acres							
Platte Canyon							
Pleasant View							

CAPITAL IMPROVEMENT SUMMARY
(000'S)

REGIONAL PROJECTS		FUNCTIONAL AREA Wastewater JURISDICTION Agency Summary					
PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
Ralston Valley							
Scenic View							
Shannon							
Sheridan Sanitation							
Sheridan #2 Sanitation							
*South Adams County							2,200
South Arapahoe Sanitation							
South Clarkson							
South Englewood Sanitation							
Southgate Sanitation							
South Lakewood Sanitation							
South Sheridan							
Southwest Metro							
Standley Lake							
Strausburg							
Tamarac							
Valley Sanitation							
West Jeffco Sanitation							
Westlake							
Westridge Sanitation							
Wheat Ridge Sanitation							
Willowbrook							
Total Local Special Districts		28	18				2,306(3%)
Total Regional Wastewater	16,218	21,752	15,853	15,000			77,895(100%)

DRAINAGE

SUMMARY

NEEDS

Regional drainage and flood control needs for 1990 are defined in a Plan for Urban Storm Drainage and Flood Control in the Denver region, adopted by the Council in October of 1972. The plan which was prepared in cooperation with the Urban Drainage and Flood Control District defines the need for:

(1) Preventative and design planning for 1,091 miles of drainage channels.

(2) 136 miles of drainageway construction and channel relocation and construction.

(3) 121 major drainage structures and five storm water storage facilities.

Development of the regional drainage and flood control system has been staged by 5-year periods to 1990.

FUNDING REQUIREMENTS

Preventative and design planning costs were estimated at $3,599,000 and capital construction costs of drainage improvements to 1990 as follows:

Channel Rehabilitation	$10,678,000
Channel Construction	13,248,000
Conduit	9,519,000
Structures	4,556,000
Storage	163,000
Other	1,221,000
Total	$39,385,000

OBJECTIVES/POLICIES

Objectives and Policies for the Regional Drainage System were derived from a set of statements in Storm Drainage and Flood Control Criteria, adopted September, 1972 by the Council.

SELECTION CRITERIA

The selection of projects determined to be "Regional" in nature was based on the following general criteria which was used to judge whether or not the project would have:

Pages 126, 127 and 128 are Blank.

Interjurisdictional Impact

- Funded, operated or owned by more than one jurisdiction
- Significant effect on government, citizens, development or environment of more than one local government
- Extensive use by citizens of more than one local jurisdiction

Regional Impact

- Significant effect on any adopted areawide plan, system, program or policy

The selection criteria was further defined in terms unique to the specific functional area of Drainage.

PRIORITY CRITERIA

The criteria used to determine relative priorities was developed in order to facilitate ranking among projects within the functional area of Drainage. In the absence of any adopted system in this area, the criteria used was derived from the adopted objectives and policies.

While the system used is deficient in many respects, it serves as a demonstration of the type of methodology to be applied in order to achieve a priority ranking.

DRAINAGE

NEEDS

- Intense rain storms, heavy runoff from snow melt and surface runoff have created serious drainage and flood control problems in the Denver area and taxed the ability of both natural and man made drainage systems to handl drainage.
- The regional drainage system is largely concerned with drainage for major storms which have a one percent chance of occurring in any given year.
- The climate of the area creates unique concerns. Rainfall averages only 14 inches annually but is concentrated in the spring and summer and is accompanied with runoff from melting snow.
- Rainfall is often highly localized and intense, creating high peaks of runoffs over short periods in small geographic areas.
- Because of this rainfall situation, the Denver region does not have the same degree of need for underground conduit found in areas of higher annual rainfall.
- The drainage system of the region has been encroached upon by residential, industrial, and commercial development in flood plains. Although three-fourths of the drainage channel rules are presently unoccupied, exposure to flood damage and loss of life has been substantial.
- 24% of the channel miles in sub-basins were found to have a high flood damage potential and 43% a moderate damage potential.
- Channels with high potential involve the main stem of the South Platte River from Littleton to north of Denver and immediately tributaries along this reach, and channels in the Boulder, Broomfield, Longmont and Brighton City areas.
- Of the 398 sub-basins, almost half involve more than one jurisdiction. Many high potential problems in the City and County of Denver do not necessarily originate there but are the effects of increased urbanization of the upstream parts of the drainage basins since the channels in these areas also flow through Denver.
- Preventative master planning has been identified as necessary for those areas where flood plain regulation, land use controls, and other essentially preventive actions can be supplied with maximum effectiveness. By providing a definition of channel requirements and flood plain limits, through application of a preventive master plan, it is possible, to guide development of an area in a manner

consistent with the natural major drainage system. In this way, the responsibility for providing adequate channels and structures can be placed on those developing the area.

- Design master planning is needed for those areas where problems already exist to the extent that facility construction is required. In these cases, design master planning provides the information necessary to define and select a major drainage concept for a drainage basin, and prepare engineering cost estimates of principal features of the plan, so that final design drawings and specifications can be prepared and construction contracts awarded.

- Construction would be required in developed areas in which preventive measures are not feasible and where channeling, culverts, sewers and other structures are needed to provide protection. These necessary drainage facilities relate to the major drainage system though facilities may be located entirely within a single city or county. Major drainage facilities include higways and railroad bridges, irrigation ditch crossings, close conduit, channel construction, open channel construction, energy dissipaters, detention ponds, channel rehabilitation, and land acquisition related to any of these facilities.

TABLE 25

DRAINAGE

PLANNING AREA	SYSTEM NEEDS 1971-75	 1976-80	 1981-85	 1986-90	 TOTAL
BOULDER CREEK BASIN					
BIG DRY CREEK BASIN					
FIRST CREEK BASIN					
CLEAR CREEK BASIN					
SAND CREEK BASIN					
CENTRAL DENVER					
CHERRY CREEK					
BEAR CREEK BASIN					
SOUTH SIDE BASIN					
TOTAL DRAINAGE					
Preventative*	319.4	485.0	36.8		841.2
Design*	96.7	87.2	65.8		249.8
Rehabilitation*	28.6	17.7	17.9	11.1	75.2
Construction*	1.2	3.2	13.7	31.8	49.9
Conduit*		0.4	3.3	6.9	10.6
Structures**	16	41	42	22	121
Storage Facilities**	3	1	1		5

---

* in miles of channel

**in actual numbers

FUNDING REQUIREMENTS

- The analysis of flood damage potential in the 398 drainage sub-basins in the region established the actions required to prevent loss of life and property damage. While much can be achieved by low-cost preventive measures, construction and/or flood insurance are the only realistic approaches in the urbanized areas of the region and in other areas with development in flood plains. An estimated $132.4 million dollars in planning and facility construction is required to correct existing runoff and flooding hazards and further urbanization in flood plains and inflation could severely escalate this cost.

- While needs have been estimated at $132.4, the recommended program has been costed at $43 million. The program provides for substantial completion of all preventative and design planning at a cost of $3.6 million and required construction at $39.4 million. Channel rehabilitation and construction account for almost 60% of total construction costs. Over half of the construction cost has been deferred to the last five year period of the 20 year program as both preventive and design planning for the entire area will be completed by this time. Extensive construction requirements in the already developed area of Denver City and County account for over 35% of total program construction costs, while half the cost of preventive planning is programmed for the less developed Adams and Jefferson Counties.

- While the estimate of total drainage system construction needs is $128 million and the recommended program amounts to only $39 million, the gap is not as large as it might seem. A detailed cost estimate of a number of projects indicated that the needs estimate was unrealistically high in many cases; for example, a $3 million detailed cost estimate for the Weir-Sanderson Gulch project versus the needs estimate of $7 million. A number of items in the needs schedule will likely be constructed by other agencies and under separate programs, such as structures and facilities as part of street and highway construction by the State Highway Department and U. S. Army Corps of Engineers flood control projects. In some cases, items have not been included in the construction program because they are essentially single jurisdictional projects or are high-cost, single-purpose items which do not provide benefits commensurate with their cost. A portion of the construction needs could be met by local governments with Federal and State financial assistance and, in the case of new development, some of the cost of major drainage system construction could be borne by the developer and home purchaser rather than the public at large.

TABLE 26

DRAINAGE

FUNDING REQUIREMENTS
(Thousands of Constant 1971 Dollars)

PLANNING AREA	1971-75	1976-80	1981-90	TOTAL
BOULDER CREEK BASIN				
Preventative	89	230		319
Design	108	40		148
Construction	2,052			15,788
Total	2,249	270		16,255
BIG DRY CREEK BASIN				
Preventative	178	84		262
Design	25	2		27
Construction		377		1,508
Total	203	463		1,787
FIRST CREEK BASIN				
Preventative	126	400	45	571
Design	25		76	101
Construction	64		1,716	6,354
Total	215	400	1,837	7,026
CLEAR CREEK BASIN				
Preventative	63	155		218
Design	39	140		179
Construction	452	1,280	5,800	7,532
Total	554	1,575	5,800	7,929
SAND CREEK BASIN				
Preventative	151	63	19	233
Design		68	39	107
Construction		420	4,519	10,510
Total	151	551	4,577	10,850
CENTRAL DENVER BASIN				
Preventative	120	10	30	160
Design	88	13	60	161
Construction	3,391	283	8,196	28,261
Total	3,599	306	8,286	28,582
CHERRY CREEK BASIN				
Preventative	128	127		255
Design	21	48	92	161
Construction	1,403		1,637	23,803
Total	1,552	175	1,729	23,803
BEAR CREEK BASIN				
Preventative	54	98	17	169
Design	18	14	6	37
Construction	79	1,420	3,786	7,887
Total	151	1,532	3,809	8,093

DRAINAGE

FUNDING REQUIREMENTS
(Thousands of Constant 1971 Dollars)

PLANNING AREA	1971-75	1976-80	1981-90	TOTAL
SOUTH SIDE BASIN				
Preventative	210	341		551
Design	93	46		139
Construction	993		1,659	7,880
Total	1,296	387	1,659	8,570
TOTAL DRAINAGE				
Preventative	1,209	1,767	124	3,101
Design	469	398	305	1,172
Construction	7,741	4,434	28,753	110,589
Total	9,419	6,599	29,182	114,862
ADJUSTED TOTALS				
1973 Dollars	10,361	7,259	32,100	126,348

DRAINAGE

OBJECTIVES

- The physical ability to pass the major, or 100-year frequency, story runoff, or equivalent, at any channel location in the region, without loss of human life personal injury, or major property damage;
- The natural or historic drainage capacity, or its equivalent, for storm and flood runoff on all property in the region;
- The use of major, or 100-year frequency, storm runoff flood plains and right-of-ways for aesthetic, environmental, recreaction, or other multiple use purposes;
- The preservation of special environmental or ecological features unique to a particular drainage area;
- The current water quality standards of local, state and federal agencies for the South Platte River and its tributaries, and in runoff storage and irrigation water reservoirs on those streams;
- The compatibility of storm and flood runoff measures with current water resource management plans;
- The replenishment of groundwater in conjunction with detention storage, within limits of downstream water rights;
- The reduction of sediment, salt, and other materials carried by storm and flood runoff, without depriving downstream users of needed mineral and other water qualities.

- Storm Drainage and Flood Control Criteria, DRCOG. Adopted September 1972.

DRAINAGE

POLICIES

- Storm drainage planning and design shall be compatible with comprehensive regional plans (4.1)*;
- A preventive and/or design master plan shall be prepared and kept up-to-date for each drainage basin in the Denver region (4.1);
- Natural drainageways shall be used for storm runoff right-of-way wherever possible (4.3);
- Storm drainage problems shall not be transferred from one location to another (4.4);
- Flood plains and detention reservoirs shall be used wherever possible to reduce needed channel capacity and expenditures for drainage facilities downstream (4.5);
- Major and initial drainage systems shall be planned and designed to be compatible, and to complement one another (5.2);
- Irrigation ditches shall not be used as outfall points for major or initial drainage, except where supported by hydraulic engineering analysis (5.5);
- Runoff storage reservoirs shall be used to prevent damage and minimize downstream facility construction (5.6);
- Persons from whose land runoff flows, and persons directly affected by runoff, shall share in financing storm drainage improvements (7.4);
- All current statutory and regulatory requirements related to urban drainage and flood control shall be met or exceeded;
- Environmental and ecological values of major drainage rights-of-way shall be preserved to the maximum feasible extent.

- Storm Drainage and Flood Control Criteria, DRCOG. Adopted September 1972.

* Numbers in parenthesis refer to the Policy and Planning sections of the Urban Storm Drainage Criteria Manual, Denver Regional Council of Governments, March, 1969. Further explanation is found in those sections.

DRAINAGE

SELECTION CRITERIA

A Capital Improvement Project in this functional area is considered Regional in nature if the project may be classified as involving any of the following categories:

- Major Drainage System

DRAINAGE

PRIORITY CRITERIA

CRITERIA	2 POINTS	1 POINT	0 POINTS
REGIONAL PLAN	Fully Consistent	Needs Special Consideration	Not Consistent
LOCAL COMMITMENT	Immediate Capability (1974)	Capable in Near Future (1975-76)	Capable in Distant Future (1977-80)
NEED	Alleviates Potential Major Disruption	Alleviates Potential Minor Disruption	Alleviates Potential Nuisance
EXTENT OF SERVICE	Major Segment of Population	Average Segment of Population	Minor Segment of Population
ENVIRONMENTAL IMPACT	Positive	Moderate	Negative
COST/BENEFIT RATIO	Good	Average	Poor

DRAINAGE

PRIORITY CRITERIA

WORK SHEET

PROJECT NUMBER		REGIONAL PLAN	LOCAL COMMITMENT	NEED	EXTENT OF SERVICE	ENVIRONMENTAL IMPACT	COST/BENEFIT RATIO	POLICY BOARD DISCRETION		TOTAL POINTS
Boulder Creek	1	1	2							3
	2	1	1							2
	3	1	0							1
	4	1	1							2
	5	1	0							1
	6		2							2
Big Dry	7	1	0							1
First Creek	8	1	1							2
	9	1	0							1
	10	1	1							2
	11	1	1							2
	12	1	1							2
	13	1	0							1
Clear Creek	14	1	2							3
	15	1	1							2
	16	1	0							1
	17	1	0							1
	18	1	0							1
	19	1	2							3
	20	1	0							1
	21		2	2	1	2				7
	22	1	0	2	2	2				7
	23		2							2
	24		2							2
	25		2							2
Sand Creek	26	1	2							3
	27	1	1							2
	28	1	1							2
	29	1	0							1
	30		2	2		2				6
	31		2	1		2				5
	32		2							2
	33		2							2
	34		2							2
Central Denver	35	1	2							3
	36	1	1							2
	37	1	0							1
	38	1	2							3
	39	1	2							3
	40	1	0							1

DRAINAGE

PRIORITY CRITERIA

WORK SHEET

PROJECT NUMBER		REGIONAL PLAN	LOCAL COMMITMENT	NEED	EXTENT OF SERVICE	ENVIRONMENTAL IMPACT	COST/BENEFIT RATIO	POLICY BOARD DISCRETION		TOTAL POINTS
	41		1	1	2	2				6
	42		2	2	2	2				8
	43		0	2	2	2				6
	44	1	2	2	2	2				9
	45	1	0	2	1	2				6
	46		1	2	1	2				6
	47		1	1	1	2				5
	48	1	2	2	2	2				9
Cherry Creek	49	1	1							2
	50	1	2							3
	51	1	0							1
	52	1	0							1
	53		2							2
	54		2							2
Bear Creek	55	1	1							2
	56	1	1							2
	57	1	0							1
	58	1	0							1
	59	1	0							1
South Side	60	1	1							2
	61	1	2							3
	62	1	2							3
	63	1	0							1
	64	1	1							2
	65	1	0							1
	66	1	0							1
	67	1	0							1
Highline Canal	68	1	2							3
	69	1	1							2

TABLE 27

DRAINAGE

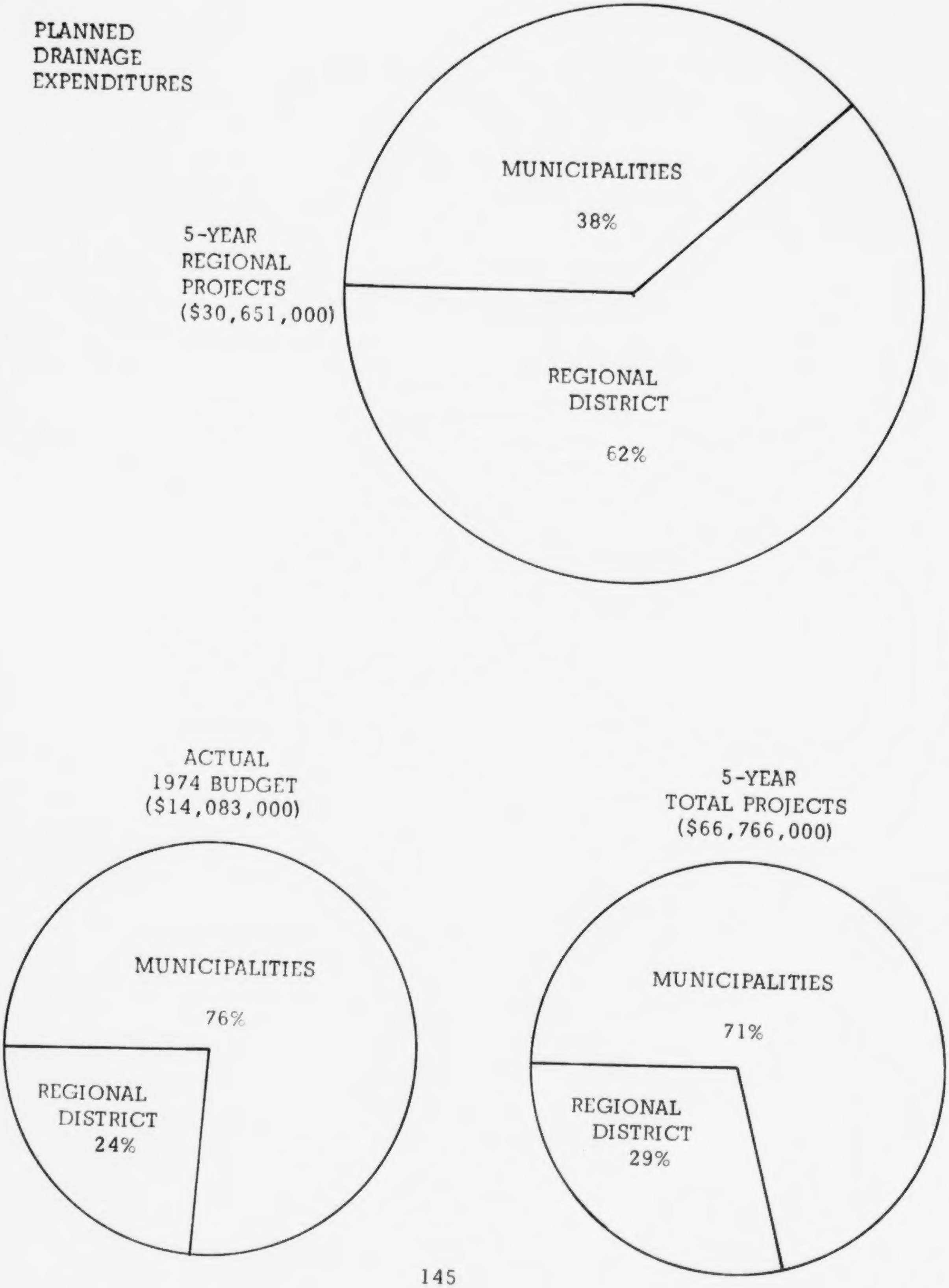
PRIORITY LIST

Points	Project (Project Number) Agency	Total Cost (000's)
9	Dry Gulch CD-2 (44) Lakewood	1,200
9	Weir Gulch CD-3 (48) Lakewood	1,176
8	20th and Ingalls CD-1 (42) Lakewood	63
7	Tucker Gulch CL-1 (21) Golden	100
7	Lena Gulch CL-1 (22) Lakewood	400
6	Storm Drain Bores SC-1 (30) Commerce City	108
6	Sloans Lake Basin CD-1 (41) Lakewood	125
6	McIntyre Gulch CD-2 (43) Lakewood	1,000
6	Lakewood Gulch CD-2 (45) Lakewood	2,108
6	Lakewood Acres CD-2 (46) Lakewood	168
5	Conter Detention Pond SC-1 (31) Commerce City	25
5	Upper Green Mountain CD-2(47) Lakewood	340
3	Boulder Creek BO (1) Urban Drainage	17
3	Mayhem Lake CL-1 (14) Urban Drainage	30
3	Ralston and Leydon Creek CL-3 (19) Urban Drainage	78
3	Sand Creek SC (26) Urban Drainage	125
3	Sloans Lake CD-1 (35) Urban Drainage	29
3	Dry Gulch CD-2 (38) Urban Drainage	22
3	Weir Gulch CD-3 (39) Urban Drainage	2,500
3	Cherry Creek CH-2 (50) Urban Drainage	181
3	Englewood Dam SS-1 (61) Urban Drainage	1,000
3	Lee Gulch SS-2 (62) Urban Drainage	12
3	Highline Canal (68) Urban Drainage	40
2	Coal Creek BO-3 (2) Urban Drainage	90
2	South Boulder Creek BO-5 (4) Urban Drainage	1,400
2	Spread Items BO-3 (6) Erie	130
2	First Creek FC-3 (8) Urban Drainage	15
2	Niver Creek FC-3 (10) Urban Drainage	600
2	Platte FC-5 (11) Urban Drainage	28
2	Unnamed FC-5 (12) Urban Drainage	16
2	Clear Creek CL-1 (15) Urban Drainage	81
2	Van Bibber CL-3 (23) Arvada	1,300
2	Ralston Creek CL-3 (24) Arvada	2,000

2	Ralston and Leyden Creek CL-3 (25) Arvada	15
2	Westerly SC-3 (27) Urban Drainage	3,310
2	East Toll Gate SC-4 (28) Urban Drainage	31
2	Baranmoor Parkway SC-1 (32) Aurora	580
2	Aurora Mall SC-4 (33) Aurora	300
2	Kingsborough SC-4 (34) Aurora	50
2	Platte CD-1 (36) Urban Drainage	30
2	Platte CH-1 (49) Urban Drainage	40
2	Yale CH-2 (53) Aurora	175
2	Parker Road (CH-2 (54) Aurora	150
2	Direct Flow BR-1 (55) Urban Drainage	33
2	Weaver Creek BR-1 (56) Urban Drainage	27
2	Little Dry SS-1 (60) Urban Drainage	57
2	Dutch Creek SS-3 (64) Urban Drainage	77
2	Highline Canal (69) Urban Drainage	1,000
1	Rock Creek BO-3 (3) Urban Drainage	39
1	Unnamed BO-6 (5) Urban Drainage	18
1	Unnamed BD-1 (7) Urban Drainage	11
1	Brantner Gulch FC-3 (9) Urban Drainage	44
1	Irondale Gulch FC-5 (13) Urban Drainage	85
1	Tucker Gulch CL-1 (16) Urban Drainage	16
1	Unnamed CL-1 (17) Urban Drainage	20
1	Mayhem Lake CL-1 (18) Urban Drainage	1,000
1	Van Bibber CL-3 (20) Urban Drainage	1,300
1	Toll Gate SC-4 (29) Urban Drainage	49
1	Sloans Lake CD-1 (37) Urban Drainage	3,000
1	Direct Flow CD-5 (40) Urban Drainage	3
1	Goldsmith CH-2 (51) Urban Drainage	2,400
1	Piney Creek CH-3 (52) Urban Drainage	76
1	Bear Creek BR-1 (57) Urban Drainage	54
1	Mt. Vernon Creek BR-1 (58) Urban Drainage	24
1	Turkey Creek BR-1 (59) Urban Drainage	35
1	Direct Flow SS-2 (63) Urban Drainage	15
1	SJCD (South) SS-3 (65) Urban Drainage	22
1	Dad Clark Gulch SS-4 (66) Urban Drainage	37
1	Cottonwood Creek SS-5 (67) Urban Drainage	21
TOTAL REGIONAL DRAINAGE		30,651

FIGURE 12

PLANNED
DRAINAGE
EXPENDITURES



CAPITAL IMPROVEMENT SUMMARY
(000's)

TABLE 28

REGIONAL PROJECTS	**FUNCTIONAL AREA** Drainage **JURISDICTION** Agency Summary						
PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
Municipalities							
*Arvada	915	1,600	800				3,315(11%)
*Aurora	1,255						1,255(4%)
Boulder							
Bow Mar							
Brighton							
Broomfield							
Cherry Hills							
Columbine Valley							
*Commerce City	133						133
Denver							
Edgewater							
Englewood							
*Erie	40	30	30	30			130
Federal Heights							
Glendale							
*Golden	20	20	20	20			100
Greenwood Village							
Jamestown							
Lafayette							
*Lakewood		752	981	1,437	1,837	1,664	6,580(21%)
Littleton							
Longmont							
Louisville							
Lyons							
Morrison							
Northglenn							
Sheridan							
Thornton							
Westminster							
Wheat Ridge							
Total Municipalities	2,363	2,402	1,741	1,487	1,857	1,664	11,513(38%)

CAPITAL IMPROVEMENT SUMMARY
(000's)

REGIONAL PROJECTS	FUNCTIONAL AREA Drainage JURISDICTION Agency Summary						
PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
Counties							
Adams County							
Arapahoe County							
Boulder County							
Jefferson County							
Total Counties							
Regional Special Districts							
Urban Drainage and Flood Control	4,034	2,253	4,582	3,989	4,280		19,138(62%)
Total Regional Drainage	6,396	4,655	6,323	5,476	6,137	1,664	30,651(100%)

PARKS

SUMMARY

NEEDS

Three separate statements of needs have been developed:

- Local and regional park needs in acres were initially defined for the current year and the year 2000 in an adopted Parks and Recreation, Open Space Plan prepared the DRCOG in 1968.
- In 1970, a short-term park and recreation, open space development program redefined local park needs for the year 1980.
- A supplement to the 1970 development program was prepared in 1973 and redefined district and regional park needs.

The three statements of need are not comparable and do not include operational, short-term development programs, nor has the development of regional parks and recreation facilities been staged in any of the three studies.

FUNDING REQUIREMENTS

Several estimates of park land acquisition costs have been made in the three studies to date:

Year of Study	Type of Park Facility	Year	Deficiency (Acres)	Acq. Cost
1968	Local	2000	22,755	$125,975,000
1968	Regional	2000	19,450	20,000,000
1970	Local	1980	9,050	65,089,000
1973	Dist. & Reg'l	2000	14,080	69,967,000

OBJECTIVES/POLICIES

Objectives and Policies for the Regional Parks System were derived from a set of statements in Supplement: 1970 Parks, Recreation and Open Space Development Program adopted January, 1973 and Parks, Recreation and Open Space Development Program adopted December, 1968 and revised December, 1970.

SELECTION CRITERIA

The selection of projects determined to be "Regional" in nature was based on the following general criteria which was used to judge whether or not the project would have:

Pages 148, 149 and 150 are Blank.

Interjurisdictional Impact

- Funded, operated or owned by more than one jurisdiction
- Significant effect on government, citizens, development or environment of more than one local government
- Extensive use by citizens of more than one local jurisdiction

Regional Impact

- Significant effect on any adopted areawide plan, system, program or policy

The selection criteria was further defined in terms unique to the specific functional area of Parks.

PRIORITY CRITERIA

The criteria used to determine relative priorities was developed in order to facilitate ranking among projects within the functional area of Parks. In the absence of any adopted system in this area, the criteria used was derived from the adopted objectives and policies.

While the system used is deficient in many respects, it serves as a demonstration of the type of methodology to be applied in order to achieve a priority ranking.

PARKS

NEEDS

- Open space needs of the Denver Regional area could be net acreage - wise through regional level parks, but these would necessarily be located outside the main portions of the urbanized areas where larger areas are available.
- There is a critical need for local level parks to serve urban dwellers who must rely on walking or public transportation.
- There is a need for passive activity areas, aimed at the elderly, as well as playground and neighborhood type parks in the densely populated areas.
- The acquisition of planned greenbelts and flood plain protection areas should recieve a high priority due to iminent encroachment of urbanization.

PARKS

TABLE 29

PLANNING AREA	EXISTING 1968 SYSTEM*	NEEDS IN 2000*	TOTAL DEFICIENCIES
ADAMS COUNTY			
Total	1,368	5,996	-4,628
ARAPAHOE COUNTY			
Total	8,140	7,304	(+ 836)
BOULDER COUNTY			
City Parks	2,963		
Mountain Parks	3,320		
Total	6,283	4,094	(+2,189)
DENVER			
City Parks	1,738		
Mountain Parks	8,030		
Total	9,768	13,573	-3,805
JEFFERSON COUNTY			
County Parks	4,569		
Denver Mtn. Parks	(8,030)		
Total	12,599	9,270	(+3,329)
TOTAL PARKS			
City/County Parks	18,778		
Mountain Parks	11,350		
	30,128	40,237	-10,109

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*Regional Parks in acres

PARKS

FUNDING REQUIREMENTS

- The cost estimates for parks funding requirements show only land acquisition costs, while some development (as sprinkler systems, tennis courts, biking and hiking trails, ball diamonds, soccer fields, etc.) must occur on a portion of the land.

- A development cost of $10,000 per acre is reasonable and if only 10% of the land in the year 2000 were to be developed, the development costs for District and Regional park needs would approach $30,700,000.

- The DRCOG inventory did not include a need statement nor cost analysis for the other classifications of parks (playground, neighborhood park, playfield, community park, etc.) which would be less than 100 acres in size.

- Such facilities are more expensive to develop because of their location and intensive use. A detailed analysis could likely reveal a present and future deficiency on the order of several tens of millions of dollars.

TABLE 30

PARKS

FUNDING REQUIREMENTS
(Thousands of Constant 1968 Dollars)

PLANNING AREA	DEFICIENCIES	1969-80	TOTAL
ADAMS COUNTY			
Acquisition	1,972		
Development	4,309		
Total	6,281	9,735	16,016
ARAPAHOE COUNTY			
Acquisition	2,840		
Development	5,514		
Total	8,354	8,196	16,550
BOULDER COUNTY			
Acquisition	1,531		
Development	2,055		
Total	3,586	8,810	12,396
DENVER			
Acquisition	32,718		
Development	15,327		
Total	48,045	5,145	53,190
JEFFERSON COUNTY			
Acquisition	3,710		
Development	7,548		
Total	11,258	10,749	22,007
TOTAL PARKS			
Acquisition	42,722		
Development	34,752		
Total	77,524	42,635	120,159
ADJUSTED TOTALS			
1973 Dollars	100,006	54,999	155,005

PARKS

OBJECTIVES

● The acquisition of open space in advance of urbanization;

● The discouragement of urbanization in conservation areas (excessive slope, flood plains, clay and shale deposits);

● The encouragement of a parks system to meet the need of all people within the region;

● The utilization of open space to help shape urban development;

● The coordination of planning with all local governments and agencies;

● The encouragement of synergistic results of open space with other kinds of development;

● The encouragement of a unified open space service such as with an Urban Service Authority;

● The cooperation between schools and other agencies for the greatest utilization of open space;

● The provision of trails for hiking, bicycling and horseback riding within the open space;

● The accessibility of open space to all people in the region;

○ The provision of the basis for the protection, preservation, acquisition and development of park and recreation areas and open space in the Denver Metropolitan Area to meet the present and future recreation needs of all of the residents of the Metropolitan Area and to identify those sites and spaces which should be acquired and programmed to meet the purposes of this objective.

● Supplement: 1970 Parks, Recreation and Open Space Development Program, DRCOG. January 1973.

○ Park Recreation and Open Space Development Program, DRCOG. December 1970.

PARKS

POLICIES

● Potential greenblet areas, especially along streams and gulches and flood plains shall be acquired on a high priority basis to protect these areas from further development;

● Larger parcels of land which would qualify for district and regional parks shall be acquired on a high priority basis;

● Land which is presently open and which borders areas of intensive or extensive urban development shall be obtained on a high priority basis;

○ The preparation of a total parks and recreation and open space master plan shall be accomplished;

○ The plans of local governmental units shall be used as the basis for the preparation of the parks and recreation and open space master plan;

○ Cooperation of all private and governmental entities shall be promoted in achieving the acquisition and development of park and recreation areas and open space in the metropolitan area based on a realistic program as established by the parks and recreation and open space master plan;

○ The Metropolitan Area portion of the Outdoor Recreation Plan of the State of Colorado shall be continually revised;

○ Metropolitan Area and State activities shall be coordinated on such projects in the Metropolitan Area that are partially or clearly a State responsibility.

○ Local governments in the metropolitan area shall prepare and adopt applicable portions of the parks and recreation and open space master plan concerning regional parks, drainage areas and other parks, and conservation, historic and scenic areas;

● Supplement: 1970 Parks, Recreation and Open Space Development Program, DRCOG. January 1973.

○ Parks, Recreation and Open Space Development Program, DRCOG. December 1968 and December 1970.

PARKS

SELECTION CRITERIA

A Capital Improvement Project in this functional area is considered Regional in nature if the project may be classified as involving any of the following categories:

- Open Space
- Regional Parks
- District Parks
- Community Parks
- Neighborhood Parks
- Hike/Bike Ways
- Special Use Facilities

PARKS

PRIORITY CRITERIA

CRITERIA	2 POINTS	1 POINT	0 POINTS
REGIONAL PLAN	Fully Consistent	Needs Special Consideration	Not Consistent
LOCAL COMMITMENT	Immediate Capability (1974)	Capable in Near Future (1975-76)	Capable in Distant Future (1977-80)
NEED	Park Land Acquisition	Park Land Development	Special Use Facilities Development
EXTENT OF SERVICE	Major Segment of Population	Average Segment of Population	Minor Segment of Population
ENVIRONMENTAL IMPACT	Positive	Moderate	Negative
COST/BENEFIT RATIO	Good	Average	Poor

PARKS

PRIORITY CRITERIA

WORK SHEET

PROJECT NUMBER		REGIONAL PLAN	LOCAL COMMITMENT	NEED	EXTENT OF SERVICE	ENVIRONMENTAL IMPACT	COST/BENEFIT RATIO	POLICY BOARD DISCRETION		TOTAL POINTS
Arvada	1	2	1	2	2	2				9
	2		1	0	2	1				4
Aurora	3		2	0	2	1				5
	4		1	0	2	1				4
	5		1	1	2	2				6
	6		2	2	1	2				7
	7		1	0	1	1				3
	8		0	0	1	1				2
	9		2	1	1	2				6
	10		1	0	1	1				3
	11		1	1	0	2				4
	12		2	1	0	2				5
	13		1	0	1	1				3
	14		1	1	0	2				4
	15		1	1	0	2				4
	16		1	1	0	2				4
	17		1	1	0	2				4
	18		0	1	0	2				3
	19		0	1	0	2				3
	20		0	1	0	2				3
	21		0	1	0	2				3
	22		2	1	0	2				5
	23		1	0	1	1				3
	24		1	0	0	2				3
	25		1	2	0	2				5
	26		1	0	1	1				3
	27		0	2	0	2				4
	28		0	1	0	2				3
	29		0	1	0	2				3
	30		0	1	0	2				3
	31		0	0	1	1				2
	32		0	1	0	2				3
	33		0	1	0	2				3
	34		1	1	0	2				4
	35		0	1	0	2				3
	36	2	1	2	1	2				8
Boulder	37	2	2	2	2	2				10
	38	2	2	2	2	2				10
	39		0	1	2	2				5
	40		0	2	2	2				6

PARKS

PRIORITY CRITERIA

WORK SHEET

	PROJECT NUMBER	REGIONAL PLAN	LOCAL COMMITMENT	NEED	EXTENT OF SERVICE	ENVIRONMENTAL IMPACT	COST/BENEFIT RATIO	POLICY BOARD DISCRETION		TOTAL POINTS
	41		2	2	0	2				6
	42		2	1	0	2				5
	43		2	0	0	1				3
	44		0	1	0	2				3
	45		0	1	0	2				3
	46		0	1	0	2				3
	47		2	0	1	1				4
Brighton	48		0	2	1	2				5
	49		2	1	1	2				6
	50		2	1	0	2				5
	51		2	1	0	2				5
	52		2	1	0	2				5
	53		1	1	0	2				4
	54		2	1	0	2				5
	55		0	1	0	2				3
Commerce City	56		1	1	0	2				4
Denver	57	2	2	2	2	2				10
	58		0	2	2	2				6
	59		1	1	2	1				5
	60		1	0	2	2				5
	61		1	2	2	2				7
	62		1	1	2	2				6
	63		0	0	2	1				3
	64		1	1	2	2				6
	65		0	0	2	1				3
	66		1	0	1	2				4
	67		1	2	1	2				6
	68		0	0	1	1				2
	69		1	0	1	1				3
	70		1	0	1	1				3
	71		0	0	1	1				2
	72		1	0	1	1				3
	73		1	0	1	2				4
	74		0	1	0	2				3
	75		0	1	0	2				3
	76		1	1	0	2				4
	77		1	0	0	1				2
	78		1	0	1	1				3
	79		1	1	0	2				4
	80		2	0	0	2				4

PARKS

PRIORITY CRITERIA

WORK SHEET

PROJECT NUMBER	REGIONAL PLAN	LOCAL COMMITMENT	NEED	EXTENT OF SERVICE	ENVIRONMENTAL IMPACT	COST/BENEFIT RATIO	POLICY BOARD DISCRETION		TOTAL POINTS
81		1	0	0	2				3
82		0	1	0	2				3
83		0	0	0	1				1
84		1	0	1	1				3
85		1	1	0	2				4
86		0	1	0	2				3
87		1	0	0	1				2
88		0	0	1	1				2
89		1	2	0	2				5
90		1	1	0	2				4
91		0	1	1	1				3
92		0	2	1	1				4
93		0	0	1	1				2
94		0	0	1	1				2
95		0	1	1	1				3
96		1	0	0	2				3
97		1	0	0	2				3
98		1	1	0	2				4
99		0	0	0	1				1
100		0	1	1	1				3
101		0	1	1	1				3
102		1	0	0	2				3
103		0	1	0	1				2
104		1	2	0	2				5
105		1	0	0	1				2
106		1	2	0	2				5
107		0	0	0	2				2
108		0	1	1	2				5
109		1	1	1	2				6
110		0	1	1	2				5
111		1	1	1	2				6
112		1	1	1	2				6
113	2	2	1	1	2				9
114		1	1	1	2				6
115		1	1	1	2				6
116		2	0	2	2				6
117		1	0	2	1				4
118		1	1	2	2				6
119		1	0	2	0				3
Lakewood 120	2	2	2	2	2				10

PARKS

PRIORITY CRITERIA

WORK SHEET

	PROJECT NUMBER	REGIONAL PLAN	LOCAL COMMITMENT	NEED	EXTENT OF SERVICE	ENVIRONMENTAL IMPACT	COST/BENEFIT RATIO	POLICY BOARD DISCRETION		TOTAL POINTS
	121		1	1	2	2				6
	122	2	2	2	2	2				10
	123	2	2	2	2	2				10
	124		1	1	1	2				5
	125		1	1	1	2				5
	126		1	2	1	2				6
	127		1	1	1	2				5
	128		0	1	0	2				3
	129		0	1	0	2				3
	130		1	2	0	2				5
	131		1	1	0	2				4
	132		0	1	0	2				3
	133		1	2	0	2				5
	134		2	2	0	2				6
	135		0	1	0	2				3
	136		1	0	0	1				2
	137		1	1	0	1				3
	138		1	1	0	2				4
	139		1	0	0	1				2
	140		1	1	0	2				4
	141		2	1	0	2				5
	142		1	1	0	2				4
	143		2	2	0	2				6
	144		2	2	1	2				7
	145	2	1	2	1	2				8
	146		2	0	1	1				4
	147		1	0	1	1				3
Northglenn	148		1	1	2	2				6
	149		1	1	0	2				4
	150		2	1	0	2				5
	151		1	2	0	2				5
	152		2	1	0	2				5
	153		0	1	0	2				3
Jeffco	154	2	2	2	2	2				10
	155		2	2	2	2				8
	156		2	2	2	2				8
	157	2	2	2	2	2				10
	158	2	2	2	2	2				10
	159	2	2	2	2	2				10
State	160		2	2	2	2				8
	161		2	2	2	2				8

TABLE 31

PARKS

PRIORITY LIST

Points	Project (Project Number) Agency	Total Costs (000's)
10	Open Space (37) Boulder	9,320
10	Hayden Lake (38) Boulder	263
10	Platte River (57) Denver	1,700
10	Bear Creek (120) Lakewood	1,093
10	Green Mountain (122) Lakewood	6,000
10	Green Mountain (123) Lakewood	650
10	Bear Creek (154) Jefferson County	1,096
10	Hogback-Nelson (157) Jefferson County	110
10	Ralston Creek Trail (158) Jefferson County	76
10	Standley Lake (159) Jefferson County	1,113
9	Standley Lake (1) Arvada	1,000
9	Highline Canal (113) Denver	65
8	Highline Trail (36) Aurora	135
8	Bear Creek Trail (145) Lakewood	300
8	Foothills Trail (155) Jefferson County	60
8	Hiram Homestead (156) Jefferson County	124
8	Ward Road Trail (160) Jefferson County	36
8	Chatfield Reservoir (161) State	697
7	Exposition Park (6) Aurora	150
7	Hiking Trails (61) Denver	125
7	Alameda Trail (144) Lakewood	70
6	Highline (5) Aurora	30
6	Utah Park (9) Aurora	250
6	Major Park (40) Boulder	400
6	Axelson Property (41) Boulder	14
6	New Park (49) Brighton	600
6	Daniels Park (58) Denver	500
6	Bear Creek (62) Denver	545
6	Sloans Lake (64) Denver	575
6	Cherry Creek/Holly (67) Denver	50
6	East Denver Parkways (109) Denver	100
6	Goldsmith Gulch (111) Denver	150
6	Green Lateral Ditch (112) Denver	40
6	Lakewood/McIntyre Gulch (114) Denver	160
6	Weir Gulch (115) Denver	50
6	Botanic Gardens (116) Denver	90
6	Mt. Carbon (118) Denver	750
6	Bear Creek (121) Lakewood	243
6	Clairfield (126) Lakewood	402

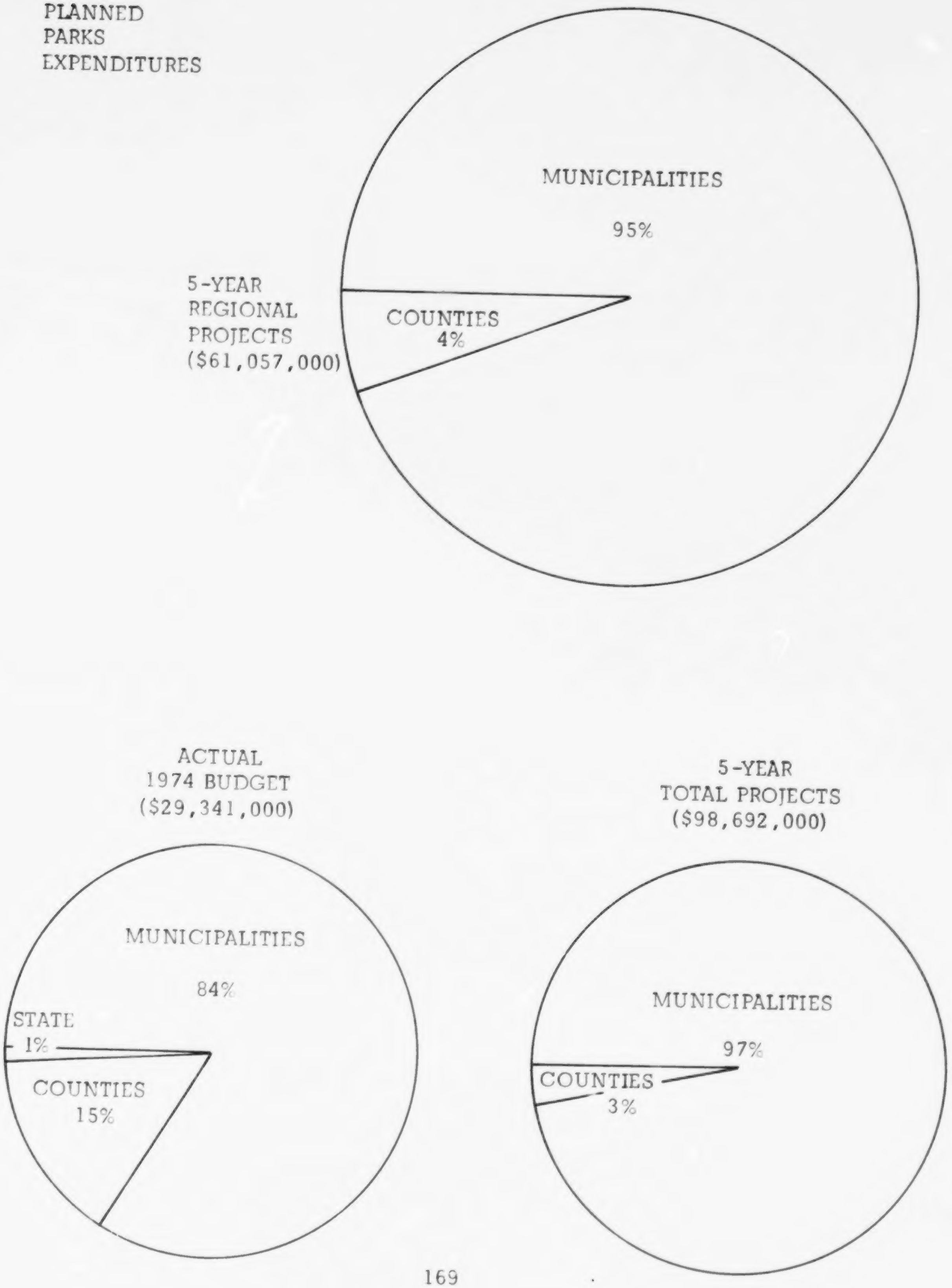
6	Maple Grove (134) Lakewood	375
6	13th and Carr (143) Lakewood	146
6	Stonehocker (148) Northglenn	1,250
5	Springhill Pool (3) Aurora	400
5	Chambers Heights (12) Aurora	220
5	Meadowwood (22) Aurora	200
5	Mountview (25) Aurora	100
5	Boulder Reservoir (39) Boulder	750
5	Lerow Park (42) Boulder	44
5	New Park (48) Brighton	300
5	BJAA Park (50) Brighton	90
5	Benedict Park (51) Brighton	90
5	Brighton Terrace Park (52) Brighton	60
5	Montoya Park (54) Brighton	20
5	Newton Park (59) Denver	75
5	Recreation Camp (60) Denver	650
5	Loretto Heights (89) Denver	100
5	Zuni/51st (104) Denver	325
5	32nd/Colorado (106) Denver	175
5	Berkeley Park Trail (108) Denver	9
5	East Harvard Gulch (110) Denver	60
5	Addenbrooke (124) Lakewood	1,095
5	Belmar (125) Lakewood	1,565
5	1st and Teller (127) Lakewood	119
5	Glennon Heights (130) Lakewood	110
5	Kentucky-Nelson (133) Lakewood	101
5	Union Square (141) Lakewood	75
5	Grant Park (150) Northglenn	435
5	Livingston Park (151) Northglenn	72
5	Rotary Park (152) Northglenn	40
4	Cultural Center (2) Arvada	3,600
4	Springhill (4) Aurora	75
4	Altura-Sable (11) Aurora	100
4	Cottonwood Park (14) Aurora	70
4	Fulton Park (15) Aurora	45
4	Havana Park (16) Aurora	30
4	Hoffman Park (17) Aurora	40
4	Moorhead Park (27) Aurora	100
4	Water Plant Park (34) Aurora	75
4	Harbeck House (47) Boulder	49
4	Malcolm Park (53) Brighton	15
4	Conter Park (56) Commerce City	150
4	Barnum Park (66) Denver	275
4	Vanderbilt Park (73) Denver	350
4	Bromwell Park (76) Denver	30

4	Eastman Park (79) Denver	60
4	Fairmont/RFK (80) Denver	816
4	Hamden Heights (85) Denver	150
4	Montbello Parks (90) Denver	560
4	Northside (92) Denver	270
4	Spear Hospital Park (98) Denver	60
4	City Park Zoo (117) Denver	325
4	Holland-Ernst (131) Lakewood	10
4	Stober (138) Lakewood	26
4	Tegeler (140) Lakewood	41
4	8th and Simms (142) Lakewood	155
4	Community Center (146) Lakewood	75
4	Croke Reservoir (149) Northglenn	200
3	Del Mar Park (7) Aurora	400
3	Utah Park Pool (10) Aurora	600
3	Chambers Heights (13) Aurora	75
3	Hutchinson Park (18) Aurora	250
3	Iliff Meadows Park (19) Aurora	100
3	Jewell Park (20) Aurora	25
3	Kingsborough Park (21) Aurora	200
3	Meadowwood (23) Aurora	75
3	McMullen Park (24) Aurora	15
3	Moorhead Park (26) Aurora	75
3	Nome Park (28) Aurora	25
3	Peoria Hills Park (29) Aurora	100
3	Pheasant Run Park (30) Aurora	50
3	Van Schaack Park (32) Aurora	100
3	Virginia Court Park (33) Aurora	25
3	Wheeling Park (35) Aurora	25
3	North Boulder Park (43) Boulder	56
3	Park East Park (44) Boulder	78
3	Parkside Park (45) Boulder	175
3	Tantra Park (46) Boulder	140
3	Veterans Park (55) Brighton	20
3	Berkeley Park (63) Denver	300
3	Ruby Hill (65) Denver	345
3	Congress Park (69) Denver	670
3	Eisenhower Park (70) Denver	75
3	Lincoln Park (72) Denver	400
3	Argo/Elyria (74) Denver	25
3	Avondale (75) Denver	55
3	Columbus Park (78) Denver	470
3	Frontier Park (81) Denver	25
3	Garland Park (82) Denver	115
3	Goldsmith Gulch (84) Denver	495
3	Kennedy Park (86) Denver	254
3	Montclair Park (91) Denver	645

3	Platte Park (95) Denver	100
3	Pulaski Park (96) Denver	35
3	Schafer Park (97) Denver	10
3	Swansea Park (100) Denver	280
3	Valverde/Athmar (101) Denver	310
3	Vine/Iowa Park (102) Denver	50
3	Sports Complex (119) Denver	5,330
3	County Village (128) Lakewood	31
3	Florida-Wadsworth (129) Lakewood	21
3	Hutchinson (132) Lakewood	31
3	Molholm School (135) Lakewood	68
3	Robins-Dasher (137) Lakewood	11
3	Community Center (147) Lakewood	80
3	Scout Park (153) Northglenn	20
2	Del Mar Ice Arena (8) Aurora	50
2	Pheasant Run Center (31) Aurora	75
2	Cook Park (68) Denver	300
2	Garfield Lake (71) Denver	270
2	Capitol Hill/Montclair (77) Denver	50
2	King (87) Denver	125
2	La-Alma (88) Denver	100
2	Observatory/McWilliams (93) Denver	270
2	Park Hill (94) Denver	270
2	West-Bar-Val-Wood (103) Denver	100
2	20th Street (105) Denver	50
2	46th/Pecos Park (107) Denver	50
2	Morse (136) Lakewood	377
2	Surfside Pool (139) Lakewood	35
1	Glenarm (83) Denver	120
1	Stapleton (99) Denver	20
TOTAL REGIONAL PARKS		61,057

FIGURE 13

PLANNED
PARKS
EXPENDITURES



CAPITAL IMPROVEMENT SUMMARY
(000's)

REGIONAL PROJECTS		FUNCTIONAL AREA Parks					
		JURISDICTION Agency Summary					
PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
Municipalities							
*Arvada		2,500	1,100				4,600(8%)
*Aurora	945	1,040	900	675	725		4,285(7%)
*Boulder	972						11,289(18%)
Bow Mar							
*Brighton		150	88	90	88	90	1,195(2%)
Broomfield							
Cherry Hills							
Columbine Valley							
*Commerce City		150					150
*Denver	635	5,776	5,776	2,011	2,011	2,011	20,904(34%)
Edgewater							
Englewood							
Erie							
Federal Heights							
Glendale							
Golden							
Greenwood Village							
Jamestown							
Lafayette							
*Lakewood		2,348	3,445	2,737	2,567	2,208	13,305(22%)
Littleton							
Longmont							
Louisville							
Lyons							
Morrison							
*Northglenn	305	325	1,322	20			2,017(3%)
Sheridan							
Thornton							
Westminster							
Wheat Ridge							
Total Municipalities	2,902	12,289	12,631	5,533	5,391	4,309	57,745 (95%)

TABLE 32

CAPITAL IMPROVEMENT SUMMARY
(000's)

REGIONAL PROJECTS

FUNCTIONAL AREA Parks

JURISDICTION Agency Summary

PROJECTS	1974	1975	1976	1977	1978	1979	ESTIMATED TOTAL COST
Counties							
Adams County							
Arapahoe County							
Boulder County							
Jefferson County	2,059	519	37				2,615(4%)
Total Counties	2,059	519	37				2,615(4%)
State							
Division of Parks and Outdoor Recreation							697(1%)
Local Special Districts							
Adams District #50							
Adams School District #14							
Columbine Knolls--Grove							
Daniels							
Evergreen Metro							
Foothills Metro							
Hyland Hills Metro							
Lakewood							
Leawood Metro							
Mountain							
Normandy Estates							
Northglenn Metro							
North Jeffco Metro							
Orchard Hills							
Pleasand View Metro							
Prospect							
South Jeffco Metro							
South Suburban Metro							
Total Regional Parks	4,961	12,808	12,668	5,533	5,391	4,309	61,057(100%)

TRANSPORTATION

SUMMARY

NEEDS

Highway System needs were defined in a Highway System Plan for the year 2000, adopted by the Council in December of 1973. The Plan establishes a need for new construction, reconstruction and improvements on a 783.4 mile regional freeway and principal arterial street system. The Highway System Plan is being staged in 10-year periods and annual and short-term (5-year) development programs are being prepared.

Mass Transit System needs were defined in a plan for public transportation adopted by the Council in December of 1973. The Plan is designed to meet travel demands in the year 2000 and proposes a 97.8 mile fixed personal rapid transit system and a local, express, feeder and regional bus system. The Public Transportation System Plan is being staged in 10-year periods and annual and short-term (5 years) development programs are being prepared.

Airport System needs were defined in a Regional Airport System Plan for the year 2000, adopted by the Council in March of 1974. The Plan calls for:

- Retention of the existing air carrier airport, Stapleton International Airport (SIA) with expansion of the terminal and improvements of existing north-south runway.
- Expansion of four existing general aviation airports and development of four new airports.
- A study to identify the best site for a future air carrier airport to be developed when a second carrier airport is required to meet growing needs.

The proposed long term airport development plan has generally been staged in ten-year periods. The preparation of a short term program for improvement of the SIA terminal and general aviation airport development has been recommended but has not been programmed to date.

FUNDING REQUIREMENTS

Highway System long-term development has been costed at $1.22 billion with $392.9 million for freeway development and $829.1 million for principal arterial streets. Development, operation and maintenance costs by decade have not been estimated but can be established with available plan information and presumably will be in the long-term program now being prepared.

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Mass Transit System long-term Capital costs are estimated at $1,085,000,000 and have been programmed on an annual basis over the 26-year development period.

Airport System long-term development has been costed at $165.0 and $61.1 million, respectively, for SIA improvements and general aviation airport development, and the net local development costs by decade estimated, assuming current federal aid proportions.

OBJECTIVES/POLICIES

Objectives and Policies for the Regional Transportation System were derived from a set of statements in Transportation System Report, adopted December, 1973 and Denver Regional Airport System Plan, adopted March, 1974 by the Council.

SELECTION CRITERIA

The selection of projects determined to be "Regional" in nature was based on the following general criteria which was used to judge whether or not the project would have:

Interjurisdictional Impact

- Funded, operated or owned by more than one jurisdiction
- Significant effect on government, citizens, development or environment of more than one local government
- Extensive use by citizens of more than one local jurisdiction

Regional Impact

- Significant effect on any adopted areawide plan, system, program or policy

The selection criteria was further defined in terms unique to the specific functional area of Transportation.

PRIORITY CRITERIA

The criteria used to determine relative priorities was developed in order to facilitate ranking among projects within the functional area of Transportation. In the absence of any adopted system in this area, the criteria used was derived from the adopted objectives and policies.

While the system used is deficient in many respects, it serves as a demonstration of the type of methodology to be applied in order to achieve a priority ranking.

TRANSPORTATION

NEEDS

Highway and Mass Transit Systems

- The anticipated growth and development of the region to the year 2000 will result in a 91% population increase and a 118% increase in mobility demand (person trips).

- Meeting the forecasted demand and improving the mobility of present and future population can be achieved in several ways:

    - o Reduce the time and distance of travel between home and work and other activities.

    - o Improve the level of existing highway and transit system service.

    - o Provide transportation service by highway and transit where none exists at the present time.

- A plan and program for the region's transportation system has been developed to meet mobility needs and provide transportation service for future controlled growth of the region with the maximum positive economic, social environmental impact.

- The two high density corridors extending east and west and south of the Denver CBD are characterized by a high concentration of employment and residence. This is true today and will be more so by 2000 when over 13% of all population and employment in the region will be located in the two corridors.

- The concentration of jobs and housing in activity centers and corridors is expected to reduce some of the demand for travel in the future as residents in activity centers and corridors will have employment, shopping, health care, and other opportunities close at hand and those opportunities outside the centers and corridors will be much more accessible.

- The objective of the public transportation system is to provide transit service within one-quarter mile of most of the region's residents. The existing transit system of local, express and regional bus service, while expanding, does not provide this level of service throughout the region today.

- An evaluation of the existing transportation system showed congestion and a lack of capacity to meet present and future highway travel demands in several major travel corridors in the region:

    - o East-west through the region along Interstate 70 and the 6th Avenue/Colfax Avenue corridors;

    - o North-South through the Platte Valley along Interstate 25 and the Santa Fe/Broadway corridors;

- o Northwest along the Boulder turnpike corridor

- The existing transit system was found to be inadequate in serving many areas of the region and certain groups of the region's population based on availability, frequency and convenience of service and accessibility to work, shopping, health care and other opportunities and services.

- The transit system appears to be adequate for neighborhoods within and immediately surrounding Denver's CBD largely because major bus routes run through this area to reach downtown. The inadequacy of service increases proportionately with the distance from the inner city, except in the high density corridors, such as along Colfax Avenue.

- Access to activity centers by transit is limited at present, particularly if the center is located in the fringe area. The Denver CBD is the focal point for most bus routes in the region and few bus routes connect the central area with outer activity and employment centers with sufficient frequency to serve the "reverse commuter".

- In certain areas of the region there is a significant proportion of the population which is "transit dependent"; that is, without the use of an automobile or the means to acquire and use one, or is unable to operate an automobile due to age or physical inability. Such areas outside of Denver are poorly served and where bus service is present, the routes are express rather than local.

- The evaluation of the existing transportation system and analysis of regional growth and development and mobility demands indicate a need for:

    - o Improved transit service, increased accessibility to the transit system, extension of transit service to newly developing areas of the region, and linking urban areas to the region with transit service.

    - o Maintenance and improvement of the capacity, effeciency and continuity of the highway system service to meet mobility needs of newly developing areas, and improvement of highway facilities linking major urban areas, such as Boulder and Longmont.

- Of the 3.6 million increase in person trips expected by the year 2000 25% will be made on a public transportation system of improved local feeder and express bus service and 98 miles of fixed PRT lines.

- The transit system will meet the needs for almost 14% of all daily person trips in the year 2000 as compared with less than 2% in 1970.

- The regional highway system will have to meet a mobility demand increase of 89% in person trips and over 150% in daily vehicle miles of travel.

- The proposed Regional Highway System is a grid of principal arterial streets one to two miles apart and limited access highways four to five miles apart serving major centers of activity in the region, the highest traffic volume corridors, and the longest trips.

- The system is designed to meet most of the future demands for highway mobility, while minimizing new highway construction and reconstruction of the existing system.

- The proposed 783 mile regional highway system of freeways and principal arterial streets is much more effecient than the existing system that is only 35% larger than the existing one. New freeway construction, particularly in high volume corridors without limited access freeways today, and 313 miles of principal arterial street construction and reconstruction, make it possible to meet the increase in highway mobility demands.

- Annual and short-term (five year) programs for development of the regional highway and transit systems have been prepared and are being implemented.

- The 1975-79 highway development program gives priority to projects that will resolve immediate transportation problems, meet highway travel demands at the earliest possible date, maximize use and maintain continuity of the regional highway system and provide the largest return in highway service for the investment.

- The current five year (1974-78) transit development program of the Regional Transportation District is designed to expand bus service in the Denver-Boulder-Longmont areas by over 60% in a period of 18 months by:

    - Purchase and consolidation of the six existing local transit systems in the region.

    - Acquisition of 268 buses for local, express and regional bus service.

    - Planning and construction of bus shelters and storage and maintenance facilities for an expanded system.

- The program will provide improved and expanded local and express bus service in the Denver area and more frequent regional bus service between Southern Douglas County and the Denver area, and establish regional bus service between Longmont and Boulder and Longmont and Denver. The objective is to improve the operating effeciency of the existing transit system and prepare for eventual transition to a system with rapid transit service.

- Central Denver. The greatest travel demands of any area in the region will continue to be concentrated in central Denver. Extension and upgrading of existing principal arterial streets is proposed to help meet part of future travel demand but the transit system will have to meet most central Denver future transportation needs resulting from growth of the region. Between 40 and 60% of all work trips to the Central Business District by transit is proposed, the highest future transit usage in the region. In the very high volume travel corridors serving the CBD, as many as 9 of 10 person trips will be made on the transit system, and a local PRT system with bus service will meet most of the internal circulation requirements of the CBD. There will continue to be high volume congestion in east-west highway movement south of downtown Denver.

- Western Adams County. Increased capacity of north-south highways and improved capacity and continuity of east-west highways throughout the area is provided by the highway system. Only the Interstate Highway 25 corridor can be easily served with transit due to the low density, predominately residential development of the area and most of the future residential development of the area and most of the future mobility needs of the area must be met with higher levels of highway system service. Transit accessibility will be provided by the rapid transit line to Northglenn with supporting local, express and regional bus feeder service. The Interstate 25 corridor will continue to experience congestion due to excessive demand.

- Aurora. Greater capacity and continuity of highway service is provided in the Aurora area and will be adequate to meet highway mobility needs in developing parts of the area. Rapid transit lines with supporting local and express bus service will carry almost two-thirds of the east-west trips in the East Colfax corridor, and provide important service to Stapleton International Airport. The high level of transit usage will result in improved highway performance and there will be no real congestion in major travel corridors.

Airport System

- Expanded terminal capacity at SIA for air carrier service.
- Acquisition of a new air carrier airport site to meet anticipated three fold increase in air carrier operations by the year 2000.
- Expansion of three of the four existing public general aviation airports.
- Development of four new general aviation airports in the region by the year 2000.
- Limitation of general aviation airport activity at SIA, and the closure of the three existing private general aviation airports.
- A 480% increase in aircraft operations is expected by the year 2000.
- Stapleton International Airport (SIA) will continue to provide air carrier service for the region through the year 2000.
- SIA will be overloaded in the 1990-2000 period, with very high levels of aircraft delay creating an intolerable situation and requiring possible expansion of the present site or the development of a second air carrier airport in the region.
- General Aviations operations are projected as follows according to the Regional Airport Systems Plan:

  Arapahoe County Airport - The Arapahoe County Airport would be expanded to primary general aviation airport standards (annual capacity of 400,000 operations or more) with construction of four additional runways and expansion of the general aviation base area.

  Jefferson County Airport - The existing runways would be extended and the general aviation base area would be expanded. The airport has a current capacity of 485,000 operations and serves as a primary general aviation airport today.

  Boulder Municipal Airport - This secondary airport would be continued at present capacity with expansion of the general aviation base area and some improvements of the existing airfield, but no new runway construction.

Longmont Municipal Airport - A new runway would be constructed, existing runways extended and the general aviation base area expanded to provide primary general aviation airport capacity by 1990.

Private General Aviation Airports - The existing Skyrancy and East Colfax private airports would be closed by 1980 because of air space conflicts with east-west traffic at SIA and the Buckley Air National Guard Airport. The regional airport system plan also anticipates closure of the private Littleton airfield by 1980 with general aviation service provided by two new public airfields to the southwest and southeast of Denver and the existing Arapahoe County Airport.

New General Aviation Airports - Four new general aviation airports would be constructed between 1980 to 1990 to the north, east, southeast and southwest of Denver with capacities of 480,000 to 740,000 annual operations. These airports would be initially constructed as secondary general aviation airports with single runways and capacities of less than 400,000 operations.

- Military Operations are projected as follows:

  Buckley Air National Guard Airport - which is presently leased from the Federal Government, is assumed to continue in use as a military airport generally not open to public civil aviation use. An operational level of 50,000 operations per year is assumed to 1980 with a 10% increased in the 1981-2000 period.

TRANSPORTATION

TABLE 33

	EXISTING 1970 SYSTEM	TOTAL NEEDS 2000 SYSTEM
HIGHWAY SYSTEM		
LIMITED ACCESS*		
New Construction		32.6
Major Reconstruction		3.9
Major Widening (4 lanes)		14.0
Minor Widening (2 lanes)		54.1
Minor or No Construction		75.0
Total Limited Access	105.7	189.6
PRINCIPAL ARTERIALS*		
New Construction		114.5
Major Reconstruction		198.1
Major Widening (4 lanes)		0
Minor Widening (2 lanes)		100.9
Minor or No Construction		180.3
Total Principal Arterials	469.9	593.8
TOTAL HIGHWAY SYSTEM*	575.6	783.4
MASS TRANSIT SYSTEM		
PRT SYSTEM		
Guideway Miles*		98
Vehicles		1,400
Stations		60
Park/Ride Facilities		15
LOCAL BUS SYSTEMS		
Route Miles*	XX	1,533
Vehicles	XX	750
AIRPORT SYSTEM		
STAPLETON INTERNATIONAL		
Runways	4	4
Capacity **	532	532
Use**	358	671
ARAPAHOE COUNTY		
Runways	2	6
Capacity	463	950
Use	191	950

Airport System, continued

BOULDER MUNICIPAL		
Runways	1	1
Capacity	252	252
Use	97	252
LONGMONT MUNICIPAL		
Runways	2	3
Capacity	390	480
Use	70	480
JEFFERSON COUNTY		
Runways	3	3
Capacity	485	485
Use	183	485
PROPOSED PUBLIC (4)		
Runways		9
Capacity		2,180
Use		2,133
PRIVATE		
Runways	6	0
Capacity	881	0
Use	99	

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*in Miles

**Capacity and Use in thousands of annual operations

TRANSPORTATION

FUNDING REQUIREMENTS

Highway System

- A little over half of the total highway improvement costs is for new freeway and principal arterial street construction and 30% for major reconstruction, largely for principal arterial streets. Funding of regional highway system development will largely come from federal and state sources. It will be sufficient to fund construction of the proposed system assuming continuation of federal funding after completion of interstate freeways in 1983 at levels to meet the cost of scheduled improvements. The entire proposed regional highway system of freeways and principal streets is eligible for federal-aid at present and all scheduled additions are expected to be eligible. The proportion of federal aid varies with the funding classification, ranging from ____% for the Urban System to 90% for Interstate freeways as part of the Primary System. Local government is sharing costs on the Urban System, but the majority of the non-federal share of regional highway system cost is borne by the State.

- The level of freeway funding requirements will decline over the 27 year development period, while principal arterial street development costs increase. With completion of the interstate freeway system in 1983 and over half of the new non-interstate freeway mileage constructed by 1990, most of the regional highway system funding in the 1990-2000 decade will be required for development of principal arterial streets.

- The transportation system funding requirements indicate an increasing amount for the highway system over the three 10 year stages, rising from a little over $300 million in 1971-80 to $477 million in the last ten year period.

Mass Transit System

- Construction of the region's transit system is scheduled for completion in 1983 with over 87% of total funding requirements occurring in the 1971-80 decade. By 1981, programmed improvement of the bus system will have been accomplished and PRT system development progressed to the point of right-of-way acquisition for the entire system, construction of majority of the system mileage, testing, and initial operation.

- Funding of the transit system will be shared by the Regional Transportation District (RTD) and the Federal government, with the federal share providing at least 67% and possibly 80% of the total system cost. No more than 1/3 of the cost may be raised locally in accordance with the plan approved by the voters in September of 1973. The region's voters authorized RTD to issue $425 million in bonds, backed by a 1/2¢ sales tax levied within the district. The sales tax will provide enough pay-as-you-go cash revenue, along with the bonds, to raise the local share of system costs over the ten year construction period. RTD is also authorized to levy a property tax up to 1/2 mill for administrative costs and a 2 mill property tax to defray operating deficits.

- The rapid transit system is scheduled to be operational and paying its own way by 1983. The bus system, while operating at a deficit at the present time, is expected to show a small surplus when the PRT system becomes operational.
- The high transit system cost in the first staging period is due to the accelerated improvement schedule and, as a result, almost 54% of the total transportation system funding is required in the first period.
- The rapid transit system cost and schedule, regardless of the system technology selected, will have a critical effect on funding requirements. Further study of the technology for rapid transit, the selection and testing of a final system and detailed system route selection will slow the proposed transit system improvement schedule, and it appears that a large or significant portion of the scheduled funding requirement for the first stage will be deferred to the 1981-90 decade.

Airport System

- The capital cost of expanding existing airports and developing new general aviation airports has been estimated at $259.8 million over the 26 year period from 1973 to the year 2000. Over three-quarters of this amount will be required for expansion of the terminal facilities and improvement of existing airfield facilities at Stapleton International Airport. Expansion of the four existing public general aviation airports will cost $22.5 million and the sites and development of proposed public general aviation airports $37.3 million. Airfield improvements, including additional runways at the Arapahoe County and the Longmont Municipal airports and improved runway facilities at the Jefferson County airport, account for two-thirds of the cost of expanding existing public airports. The estimated costs of the new public airports range from $8.2 to $10.9 million.
- The cost schedule does not include the cost of current improvements at the SIA to 1980 that have already been committed or are under construction, nor does the schedule include the cost of acquiring the new air carrier airport site required if forecasted air carrier operation demand occurs in the 1981-1990 period and existing capacity at SIA is reached. Of total airport system development costs, 68% are scheduled for the 1981-1990 period, reflecting

the improvements required to meet accelerated demand. Over three-quarters of the air carrier airport improvements costs would be incurred during this period and the four new public general aviation airport sites would be acquired and initial development completed. Some improvement of the existing public general aviation airports would also be made during this period, but the majority of the cost of expanding existing public general aviation airports would be deferred until the last decade, 1991-2000, together with further expansion of the four new public airports.

- While deferral of regional airport system development to the 1980's provides maximum flexibility in terms of accommodating changing air traffic levels and limiting factors such as energy requirements, the provision of new public general aviation facilities and the expansion of terminal facilities at Stapleton International Airport cannot, in all probability, be deferred beyond the 1980's and a financial plan for meeting the significant development costs during this decade should be established before 1980. In addition, the estimated cost of developing a new air carrier airport could be as high as $750 million and must be considered in the financial plan if development of a new airport to meet anticipated demand is to be assured. The very large cost of air carrier airports and the ________ to __________ year period required for site selection, acquisition, design and construction makes early financial planning a necessity.

TABLE 34

TRANSPORTATION

FUNDING REQUIREMENTS
(Thousands of Constant 1973 Dollars)

PLANNING SYSTEM	1971-80	1981-90	1991-00	TOTAL
HIGHWAY SYSTEM				
LIMITED ACCESS				
New Construction				287,400
Major Reconstruction				11,800
Major Widening (4 lanes)				26,700
Minor Widening (2 lanes)				53,500
Minor or no Construction				13,500
Subtotal Interstate	144,800	62,100	-	206,900
Subtotal Other	28,700	71,800	85,500	186,000
Total Limited Access	173,500	133,900	85,500	392,900
PRINCIPAL ARTERIAL				
New Construction				353,200
Major Reconstruction				344,500
Major Widening (4 lanes)				-
Minor Widening (2 lanes)				106,500
Minor or no Construction				24,900
Total Principal Arterial	127,700	320,000	381,400	829,100
TOTAL HIGHWAY SYSTEM	301,200	473,900	466,900	1,222,000
MASS TRANSIT SYSTEM				
PRT SYSTEM				
Guideway	374,800	60,800	-	435,210
Stations	72,100	11,600	-	83,690
Vehicles	34,400	5,600	-	40,000
ROW	50,000	-	-	50,000
Other	160,300	25,900	-	186,160
Total PRT	691,600	103,500	-	795,060
BUS SYSTEM	18,720	-	-	18,720
INDIRECT COSTS	88,900	13,100	-	101,960
CONTINGENCY COSTS	125,600	18,400	-	144,010
TOTAL MASS TRANSIT	924,800	135,000		1,059,750
AIRPORT SYSTEM				
STAPLETON INTERNATIONAL				
Air Field				35,000
Terminal				165,000
Total		155,000	45,000	200,000
ARAPAHOE COUNTY				
Air Field				5,235
Terminal				3,341
Land/Utilities				254
Total	334	1,336	7,160	8,830

TRANSPORTATION

FUNDING REQUIREMENTS
(Thousands of Constant 1973 Dollars)

AIRPORT SYSTEM	1971-80	1981-90	1991-00	TOTAL
BOULDER MUNICIPAL				
Air Field				121
Terminal				401
Total	148	373		521
LONGMONT MUNICIPAL				
Air Field				3,998
Terminal				1,056
Land/Utilities				305
Access				100
Total	292	567	4,600	5,459
JEFFERSON COUNTY				
Air Field				5,606
Terminal				2,109
Total	169	907	6,640	7,715
PROPOSED PUBLIC (4)				
Air Field				18,500
Terminal				17,400
Land/Utilities				400
Access				1,000
Total		18,600	18,700	37,300
TOTAL AIRPORTS				
Air Field				68,460
Terminal				189,307
Land/Utilities				959
Access				1,100
Total	900	176,800	82,100	259,825
TOTAL TRANSPORTATION				
Highway System	301,200	453,900	466,900	1,222,000
Mass Transit System	924,800	135,000	-	1,059,750
Airport System	900	176,800	82,100	259,825
Total	1,226,900	765,700	549,000	2,541,575

TRANSPORTATION

OBJECTIVES

● The provision of desirable accessibility in order to encourage efficient use of resources, social interaction and desirable growth patterns;

● The contribution to regional goals, in terms of impacts of the transportation system in the social, economic and environmental resources of the region;

● The distribution of costs and benefits of the transportation system effects equitably throughout the region;

* The provision of high quality airport and air transportation service to residents of the region and visitors to the Denver area;

* The provision of the best possible access to each airport by every mode of transportation and for all trip purposes;

* The maximization of the positive impacts of the airport system on the region's natural, social and economic environment and minimization of negative impacts;

* The provision of an airport system which is financially feasible to develop, from the standpoint of the airport operators and the air carriers;

* The equitable distribution of the benefits and costs of airport system development throughout the region;

* The provision of an airport system which can be feasibly implemented by local governments;

o The reflection of established land use, public transportation and highway concepts and specifically serve and encourage growth in activity centers and corridors;

o The satisfaction of mobility requirements of current and future population, including that segment of the population which is "transit dependent";

o The maximization of accessibility to work and shopping and other opportunities and services throughout the region;

o The increase of reliance on public transportation by providing transit service that is comparable and competitive with the automobile and is generally within one quarter mile of most of the region's residents;

o The assurance of positive economic, social and environmental impact, which among other effects, maintains the air quality of the region;

o The minimization of vehicle miles of travel on the transportation system and in so doing reduce energy consumption and improve the operating efficiency of the system.

● Transportation System Report, DRCOG/JRPP. December 1973.

* Denver Regional Airport System Plan, DRCOG. March 1974.

o The Regional Development Plan, DRCOG.

TRANSPORTATION

POLICIES

Highway System Concepts

- The concept shall recognize a hierarchy of road systems. Each system should be designed to attract sufficient travel from the lower order system so that each operates in an efficient manner with minimum congestion. Planning for these conditions, the system elements can be designed to their individual requirements;
- The concept shall recognize the difficulty of new major route location in urban areas where the environmental impact of new facilities is severe or where existing patterns of activity are disrupted. These impacts reach their ultimate in existing developed areas;
- The concept shall recognize that urban freeway construction is appropriate in certain corridors, recognizing the safety and efficiency advantages of these facilities;
- The concept shall provide that where feasible, more right-of-way should be acquired than is the present practice, to permit abundant landscaping, to enhance the aesthetic qualities, effect noise reduction, improve safety, and allow adjacent urban areas to develop a safe distance from the transportation facility. This type of treatment can significantly reduce the adverse impacts on adjacent neighborhoods, and may justify additional expense in terms of its social and environmental benefits;
- The concept shall use techniques such as joint development, multiple use of right-of-way, and advanced right-of-way acquisition whereever possible in the construction of new facilities;
- The concept shall recognize the long-term value of and need for bicycle and pedestrian ways and the fact that in many situations this may be a cost effective way of providing transportation service;
- The concept shall be designed to provide an acceptable level of service as related to development requirements as well as user acceptance;

- The highway system shall be developed specifically as a part of a complete integrated and balanced transportation system, interfacing with other modes to provide a high level of mobility;
- In built-up and developing areas of the region, highway construction shall be minimized with due regard for congestion and the increased accidents, operating costs and travel time that congestion creates for highway users;
- New freeway construction shall meet mobility needs, particularly in suburban areas which cannot be adequately served by the transit system;
- The highway system shall complement and reinforce regional transit system and land use plans.

Mass Transit System Concepts

- The public transportation system shall make maximum use of highway facilities as they are developed within the total transportation concept;
- The concept shall give specific recognition to and encourage diversion to the public transit system by channeling traffic to specific access points. The concept should make provision for integration of other transit facilities, including busways, fringe parking and terminal facilities;
- The transportation concept shall recognize the regional center aspect of the development concept, and that street and highway patterns in these areas should be designed to encourage development of regional centers. This would include the development of fringe rather than internal parking facilities and maximum application of pedestrian oriented transportation facilities for internal circulation;
- Street and highway accessibility shall be balanced by an increase in transit accessibility to provide an alternative choice of travel mode. It is imperative that this recognition consider the difference in attraction power of the two modes and the modal choice relationships;
- The transportation concept shall recognize the urban and regional networks portions of the public transportation system and should be structured in such a manner that compatible or joint-use corridors can be developed to minimize land acquisition costs and to maximize efficient land use;

- Local bus service shall be available within reasonable walking distance in all developed parts of the region;
- A regional bus system shall directly connect major areas of activity, including Boulder, Denver, Longmont, as well as smaller communities outside these areas;
- A rapid transit system shall be developed to connect activity centers and corridors in the Denver and Boulder areas;
- The plan for public transportation shall complement and reinforce regional highway and land use plans.

Social Concepts

- The concept shall recognize regional goals by minimizing undesirable environmental impact, encouraging redevelopment of depressed areas, and contributing to the development of other public objectives;
- The concept shall provide those facilities, both highway and transit, which improve the mobility of low income groups in order to provide them with greater economic, cultural and recreational opportunities;
- The concept shall recognize that street and highway facilities should mold and solidify the integrity of neighborhoods. They should work toward developing harmonious neighborhoods. New neighborhoods should be designed so that they are not served by arterials. Rather, the high order arterials should be located on the boundaries of the neighborhoods so that through traffic will be discouraged from using local streets.

Land Use Concepts

- The transportation concept shall be cognizant of "protection zones," as identified by ecological studies, both as to routes and growth areas. It should provide access to lands as they are developed and to propitious development areas and major activity centers;
- Street and highway improvements shall be planned to encourage development in more desirable areas. However, the selection of these areas should be considered by all elements of the decision-making process;

● The transportation concept shall be a structuring element toward a desirable pattern of regional development;

● Transportation facilities shall be developed in such a way as to implement the development concept by not building these facilities in undesirable locations;

● The associated transportation service which is required to serve the land shall be so located and so designed as to minimize water pollution, avoid aquifers, avoid infringement on drainage areas, recognize topography, minimize recontouring, and recognize the hierarchy of physiographic identity units, vegetation, animal habitats and migration routes. These facilities should be located so as to avoid fog pockets, areas of high winds, snow belts, air pollution belts, or areas which accent noise generation;

o A population level below 2,350,000 in the year 2000 shall be encouraged for the Denver Region;

o The Central Business District (CBD) of Denver shall be encouraged as the major high density core of business, cultural, governmental, commercial and residential activity. Major high density activity corridors east, west, and south of the CBD shall be encouraged;

o Several major activity centers shall be encouraged in the region;

o New low-density residential growth shall be encouraged only in locations contiguous to existing developed areas while recognizing local environmental or social concerns as they might effect the location of specific development;

o Major urban concentrations shall be encouraged as opposed to contiguous low density urban sprawl;

o New industrial development shall be encouraged only insofar as suitable locations can be found where environmental hazard potential can be effectively controlled or minimized;

o Major areas of environmental, agricultural, historical, and archeological significance shall remain in an open or low density, non-urban condition;

- High intensity activity and development shall be encouraged in broad corridors centered on Colfax Avenue from Interstate 225 in Aurora to the Federal Center on the west and on Broadway from downtown Denver to Englewood as well as in designated centers in the region.

- The transportation System Report, DRCOG/JRPP. December 1973.
- The Regional Development Plan, DRCOG.

TRANSPORTATION

SELECTION CRITERIA

A Capital Improvement Project in this functional area is considered Regional in nature if the project may be classified as involving any of the following categories:

- Highway System
    - Principal Arterials
    - Major Arterials
    - Minor Arterials
- Mass Transit System
- Airport System

TRANSPORTATION

PRIORITY CRITERIA

CRITERIA	2 POINTS	1 POINT	0 POINTS
REGIONAL PLAN	Fully Consistent	Needs Special Consideration	Not Consistent
LOCAL COMMITMENT	Immediate Capability (1974)	Capable in Near Future (1975-76)	Capable in Distant Future (1977-80)
NEED	Alleviates Existing Problems or Deficiencies	Alleviates Potential Problems or Deficiencies	Serves Projected Development
EXTENT OF SERVICE	Major Segment of Population	Average Segment of Population	Minor Segment of Population
ENVIRONMENTAL IMPACT	Positive	Moderate	Negative
COST/BENEFIT RATIO	Good	Average	Poor

TRANSPORTATION

PRIORITY CRITERIA

HIGHWAY SYSTEM NEEDS

VOLUME/CAPACITY

V/C ratios are computed for the control segments of each project and points are assigned:

V/C	Points
1.80 to	10
1.60 to 1.79	9
1.40 to 1.59	8
1.20 to 1.39	7
1.00 to 1.19	6
0.80 to 0.99	5
0.60 to 0.79	4
0.40 to 0.59	3
0.20 to 0.39	2
0 to 0.19	1

HAZARD INDEX

Hazard indexes are computed for the control segments of each project and points are assigned:

HI	Points
49 to	10
42 to 48	9
35 to 41	8
28 to 34	7
21 to 27	6
14 to 20	5
7 to 13	4
0 to 6	3
-7 to -1	2
-14 to -8	1

REGIONAL PLAN

If the project affects a facility of JRPP D-1 Plan, 1 point is assigned.

TRANSPORTATION

PRIORITY CRITERIA

HIGHWAY SYSTEM NEEDS WORK SHEET

Project Number	Control Sections	Volume/Capacity (1972)	Points	Hazard Index (1971)	Points	Plan Points	Total Points
Arvada 1	0938	0.18	1	12.91	4	1	6
2	3466	0.54	3	8.59	4	1	8
3	3464	0.81	5	-6.48	2	1	8
4	3641	0.53	3	15.55	5	1	9
Aurora 5	1646	0.59	3	-6.56	2	1	6
6	3615	0.10	1	18.99	5	1	7
7	3617	0.26	2	8.94	4	1	7
8	3615	0.10	1	18.99	5	1	7
9	3614	0.10	1	-3.05	2	1	4
10	3617	0.26	2	8.94	4	1	7
11	3615	0.10	1	18.99	5	1	7
12	3615	0.10	1	18.99	5	1	7
13	3615	0.10	1	18.99	5	1	7
14	3616	0.47	3	-1.15	2	1	6
15	3613	0.04	1	-0.19	2	1	4
16	3611	0.05	1	4.10	3	1	5
17	3614/3615	0.10	1	7.97	4	1	6
18	3617	0.26	2	8.94	4	1	7
19	3611	0.05	1	4.10	3	1	5
20	1229	0.11	1	8.83	4	1	6
21	1229	0.11	1	8.83	4	1	6
22	1229	0.11	1	8.83	4	1	6
23	1549	0.07	1	28.92	7	1	9
24	1546	0.80	5	-9.68	1	1	[illegible]
25	1549	0.07	1	28.92	7	1	[illegible]
26	3613	0.04	1	-0.19	2	1	4
27	3414	0.67	4	3.66	3	1	8
28	1229	0.11	1	8.83	4	1	6
29	1229	0.11	1	8.83	4	1	6
30	1229	0.11	1	8.83	4	1	6
31	3617/3619	0.18	1	.10	3		4
32	1789	0.43	3	-1.21	2	1	6
33	1229	0.11	1	8.83	4	1	6
34	1229	0.11	1	8.83	4	1	6
35	1229	0.11	1	8.83	4		5
36	3616	0.47	3	-1.15	2		5
37	3616	0.47	3	-1.15	2		5
Boulder 38	0010	1.06	6	10.72	4		10
39	301-2/282-3	0.56	3	0.82	3		6
40	314-16/146/11	0.69	4	-0.52	2		6

Project Number	Control Section	Volume/Capacity (1972)	Points	Hazard Index (1971)	Points	Plan Points	Total Points
41	0383/0384	0.72	4	-6.10	2		6
Brighton 42	0021	0.24	2	3.22	3		5
Cherry Hills 43	1123	0.19	1	-3.57	2		3
Commerce City 44	0019	0.09	1	-6.32	2		3
Denver 45	1644/1645	1.21	7	-7.65	1	1	9
46	1628/1641-43	0.57	3	-1.65	2	1	6
47	1621	0.87	5	15.89	5	1	11
48	1626	0.36	2	-11.18	1	1	4
49	2115/2116	0.56	3	-0.05	2	1	6
50	2163	0.26	2	54.66	10		12
51	1661-1664	0.66	4	-14.05	0	1	5
52	1362/1363	0.70	4	-1.10	2	1	7
53	3334	0.22	2	8.43	4		6
54	1406	0.42	3	-2.15	2	1	6
55	1653/1692	0.37	2	-2.11	2	1	5
56	1654/1693	0.31	2	5.73	3	1	6
57	1523	0.52	3	10.25	4	1	8
58	1524	0.59	3	2.53	3	1	7
59	1104	0.25	2	-15.95	0	1	3
60	2612/2613	0.79	4	-0.77	2	1	7
61	2311	1.56	8	-10.16	1	1	10
62	2312	1.16	6	9.86	4	1	11
63	3213	1.19	6	-9.30	1	1	8
64	3071	0.15	1	-9.62	1	1	3
65	1708	0.81	5	0.28	3		8
66	1768	0.61	4	14.30	5	1	10
67	1805/1806	1.07	6	24.62	6	1	13
68	1765/1802	1.05	6	-4.23	2		8
69	2301-2303	0.43	3	0.09	3		6
70	2503	0.21	2	15.25	5		7
71	1731	0.94	5	-16.26	0	1	6
72	3042/3044	0.95	5	-1.41	2		7
73	3286	0.73	4	-10.99	1		5
74	3016	1.94	10	-5.57	2		12
75	1242	0.55	3	-2.50	1		4
76	1361	0.32	2	-3.30	2		4
77	1126	0.27	2	-13.89	1		3
78	2751/2753	0.17	1	42.03	9		10
Edgewater 79	2567	0.70	4	-8.30	1		5
Golden 80	0311	0.26	2	-10.01	1		3
81	0211	0.65	4	26.01	6		10
Lakewood 82	1402/1403	0.62	4	-9.85	1	1	6
83	1402	0.59	3	-10.30	1	1	5
84	1405	0.73	4	-8.19	1	1	6
85	0972/0973	0.68	4	-8.42	1	1	6
86	0914/0915	0.40	3	12.14	4	1	8
87	1504/1505	0.83	5	4.66	3	1	9
88	0046/1301	0.85	5	1.36	3		8
89	0974	0.87	5	1.73	3		8
90	0914/0195	0.40	3	12.14	4		7

Project Number	Control Section	Volume/Capacity (1972)	Points	Hazard Index (1971)	Points	Plan Points	Total Points
91	1403	0.65	4	-9.40	1	1	6
92	0815	1.09	6	-8.69	1		7
Littleton 93	2093	0.67	4	-6.63	2	1	7
Northglenn 94	2319	0.44	3	-2.19	2	1	6
95	4007	1.01	6	2.54	3	1	10
96	4004-4009	0.69	4	-3.44	2	1	7
97	4066	1.14	6	11.52	4	1	11
98	4064	0.43	3	-6.06	2	1	6
99	4046	0.10	1	46.60	9		10
100	1754	0.20	2	11.18	4		6
Sheridan 101	1104	0.25	2	-15.95	0	1	3
Thornton 102	2835/2836	0.13	1	3.57	3		4
103	4009	0.49	3	-5.06	2	1	6
104	2318/4008	0.63	4	-1.90	2	1	7
105	3865	0.34	2	-12.79	1	1	4
106	4064	0.43	3	-6.06	2	1	6
107	2319	0.44	3	-2.19	2		5
108	1751/1752	0.53	3	-1.01	2		5
109	3823/3824	1.11	6	12.23	4		10
Westminster 110	3641/0972	0.52	3	4.86	3	1	7
111	3724	0.74	4	-2.87	2		6
Wheat Ridge 112	3127	1.17	6	-6.44	2		8
113	3127	1.17	6	-6.44	2		8
114	3127	1.17	6	-6.44	2		8
Adams Co. 115	1536/1537	0.93	5	1.87	3	1	9
116	1536	0.88	5	-6.48	2	1	8
117	2313-2316	0.94	5	-2.79	2	1	8
118	3661	0.98	5	5.89	3		8
119	1372/1373	0.69	4	-7.32	1		5
Arapahoe Co. 120	0846	0.91	5	-7.38	1	1	7
121	0906	0.47	3	-11.42	1		4
Jefferson Co. 122	2083/2084	0.88	5	-4.58	2		7

TRANSPORTATION

PRIORITY CRITERIA

WORK SHEET

PROJECT NUMBER		REGIONAL PLAN	LOCAL COMMITMENT	NEED	EXTENT OF SERVICE	ENVIRONMENTAL IMPACT	COST/BENEFIT RATIO	POLICY BOARD DISCRETION		TOTAL POINTS
Arvada	1	1	2	1	2					6
	2	1	1	2	2					6
	3	1	2	2	2					7
	4	1	2	2	2					7
Aurora	5	1	2	1	2					6
	6	1	1	1	2					5
	7	1	1	1	2					5
	8	1	0	1	2					4
	9	1	0	1	2					4
	10	1	0	1	2					4
	11	1	0	1	2					4
	12	1	1	1	2					5
	13	1	1	1	2					5
	14	1	2	1	2					6
	15	1	2	0	2					5
	16	1	2	0	2					5
	17	1	1	1	2					5
	18	1	0	1	2					4
	19	1	0	0	2					3
	20	1	2	1	2					6
	21	1	2	1	2					6
	22	1	1	1	2					5
	23	1	2	2	2					7
	24	1	1	1	2					5
	25	1	1	2	2					6
	26	1	2	0	2					5
	27	1	1	2	2					6
	28	1	2	1	2					6
	29	1	1	1	2					5
	30	1	0	1	2					4
	31		2	0	2					4
	32	1	1	1	2					5
	33	1	1	1	1					4
	34	1	2	1	1					5
	35		0	0	1					1
	36		0	0	1					1
	37		0	0	1					1
Boulder	38		0	2	2					4
	39		0	1	2					3
	40		2	1	2					5

TRANSPORTATION

PRIORITY CRITERIA

WORK SHEET

	PROJECT NUMBER	REGIONAL PLAN	LOCAL COMMITMENT	NEED	EXTENT OF SERVICE	ENVIRONMENTAL IMPACT	COST/BENEFIT RATIO	POLICY BOARD DISCRETION		TOTAL POINTS
	41		2	1	1					4
Brighton	42		2	0	1					3
Cherry Hills	43		2	0	0					2
Commerce City	44		0	0	2					2
Denver	45	1	1	2	2					6
	46	1	0	1	2					4
	47	1	0	2	2					5
	48	1	0	0	2					3
	49	1	1	1	2					5
	50		1	2	2					5
	51	1	0	0	2					3
	52	1	1	1	2					5
	53		1	1	2					4
	54	1	1	1	2					5
	55	1	0	0	2					3
	56	1	0	1	2					4
	57	1	1	2	2					6
	58	1	0	1	2					4
	59	1	1	0	2					4
	60	1	1	1	2					5
	61	1	1	2	2					6
	62	1	1	2	2					6
	63	1	0	2	2					5
	64	1	0	0	2					3
	65		1	2	2					5
	66	1	0	2	2					5
	67	1	0	2	2					5
	68		2	2	2					6
	69'		1	1	2					4
	70		1	1	2					4
	71	1	2	1	2					6
	72		1	1	2					4
	73		0	0	2					2
	74		2	2	1					5
	75		1	0	0					1
	76		1	0	0					1
	77		1	0	0					1
	78		1	2	0					3
Edgewater	79		2	0	1					3
Golden	80		2	0	1					3

TRANSPORTATION

PRIORITY CRITERIA

WORK SHEET

PROJECT NUMBER		REGIONAL PLAN	LOCAL COMMITMENT	NEED	EXTENT OF SERVICE	ENVIRONMENTAL IMPACT	COST/BENEFIT RATIO	POLICY BOARD DISCRETION		TOTAL POINTS
	81		2	2	1					5
Lakewood	82	1	1	1	2					5
	83	1	2	0	2					5
	84	1	2	1	2					6
	85	1	2	1	2					6
	86	1	1	2	2					6
	87	1	2	2	2					7
	88		0	2	2					4
	89		0	2	1					3
	90		2	1	1					4
	91	1	1	1	1					4
	92		2	1	1					4
Littleton	93	1	2	1	2					6
Northglenn	94	1	1	1	2					5
	95	1	2	2	2					7
	96	1	2	1	2					6
	97	1	0	2	2					5
	98	1	0	1	2					4
	99		1	2	1					4
	100		1	1	0					2
Sheridan	101	1	2	0	2					5
Thornton	102		1	0	2					3
	103	1	1	1	2					5
	104	1	2	1	2					6
	105	1	0	0	2					3
	106	1	0	1	2					4
	107		1	0	1					1
	108		0	0	0					0
	109		1	2	0					3
Westminster	110	1	0	1	2					4
	111		2	1	1					4
Wheatridge	112		1	2	1					4
	113		2	2	1					5
	114		1	2	1					4
Adams County	115	1	1	2	2					6
	116	1	2	2	2					7
	117	1	2	2	2					7
	118		2	2	2					6
	119		0	0	1					1
Arapahoe Co.	120	1	2	1	2					6

TRANSPORTATION

PRIORITY CRITERIA

WORK SHEET

PROJECT NUMBER		REGIONAL PLAN	LOCAL COMMITMENT	NEED	EXTENT OF SERVICE	ENVIRONMENTAL IMPACT	COST/BENEFIT RATIO	POLICY BOARD DISCRETION		TOTAL POINTS
	121		2	0	2					4
Jefferson Co.	122		2	1	1					4
Denver	123	2	2	2	2					8
Airports	124	2	2	2	2					8
	125	2	2	2	2					8
	126	2	2	1	2					7
	127	2	2	1	2					7
	128		2		2					4
Longmont	129	2	2	2	2					8
Arapahoe Co.	130	2	2	2	2					8
Jefferson Co.	131	2	2	2	2					8
RTD	132	2	2	2	2					8
	133	2	1	2	2					7
	134	2	1	2	2					7
	135	2	2	2	2					8
	136	2	2	2	2					8
	137	2	2	2	2					8
	138	2	2	2	2					8
	139		1	2	2					5
	140	2	2	2	2					8
	141		1	2	2					5
	142		1	2	2					5

TRANSPORTATION

TABLE 35

PRIORITY LIST

Points	Project (Project Number) Agency	Total Cost (000's)
8	Bluff Lake Fence - SIA (123) Denver	59
8	Concorse A-SIA (124) Denver	895
8	East/West Runway-SIA (125) Denver	160
8	Taxiway (129) Longmont	48
8	Airport Improvements (130) Arapahoe County	6,000
8	Airport Improvements (131) Jefferson County	525
8	Suburban Acquisitions (132) RTD	248
8	Bus Facility (135) RTD	7,665
8	Radios (136) RTD	681
8	Supervisory Vehicles (137) RTD	21
8	Fare Boxes (138) RTD	128
8	Bus Shelters (140) RTD	1,595
7	Triangle (3) Arvada	149
7	West 72nd (4) Arvada	175
7	Mississippi (23) Aurora	80
7	Mississippi (87) Lakewood	1,210
7	104th Avenue (95) Northglenn	650
7	Pecos Bridge (116) Adams County	45
7	Washington (117) Adams County	1,710
7	Fire House - SIA (126) Denver	468
7	Runway - SIA (127) Denver	1,747
7	Transit Coaches (133) RTD	5,220
7	Transit Buses (134) RTD	6,700
6	Kipling/Independence (1) Arvada	2,946
6	Ralston Road (2) Arvada	117
6	Alameda (5) Aurora	80
6	Chambers Road (14) Aurora	450
6	Hampden Avenue (20) Aurora	90
6	Iliff Avenue (21) Aurora	15
6	Mississippi (25) Aurora	110
6	Peoria Street (27) Aurora	470
6	Quincy Avenue (28) Aurora	35
6	Alameda (45) Denver	3,100
6	Mississippi Overpass (57) Denver	2,000
6	Washington/38th (61) Denver	1,400
6	Washington (62) Denver	500
6	6th/8th Viaduct (68) Denver	2,250
6	23rd Street Viaduct (71) Denver	1,500
6	Jewell (84) Lakewood	28

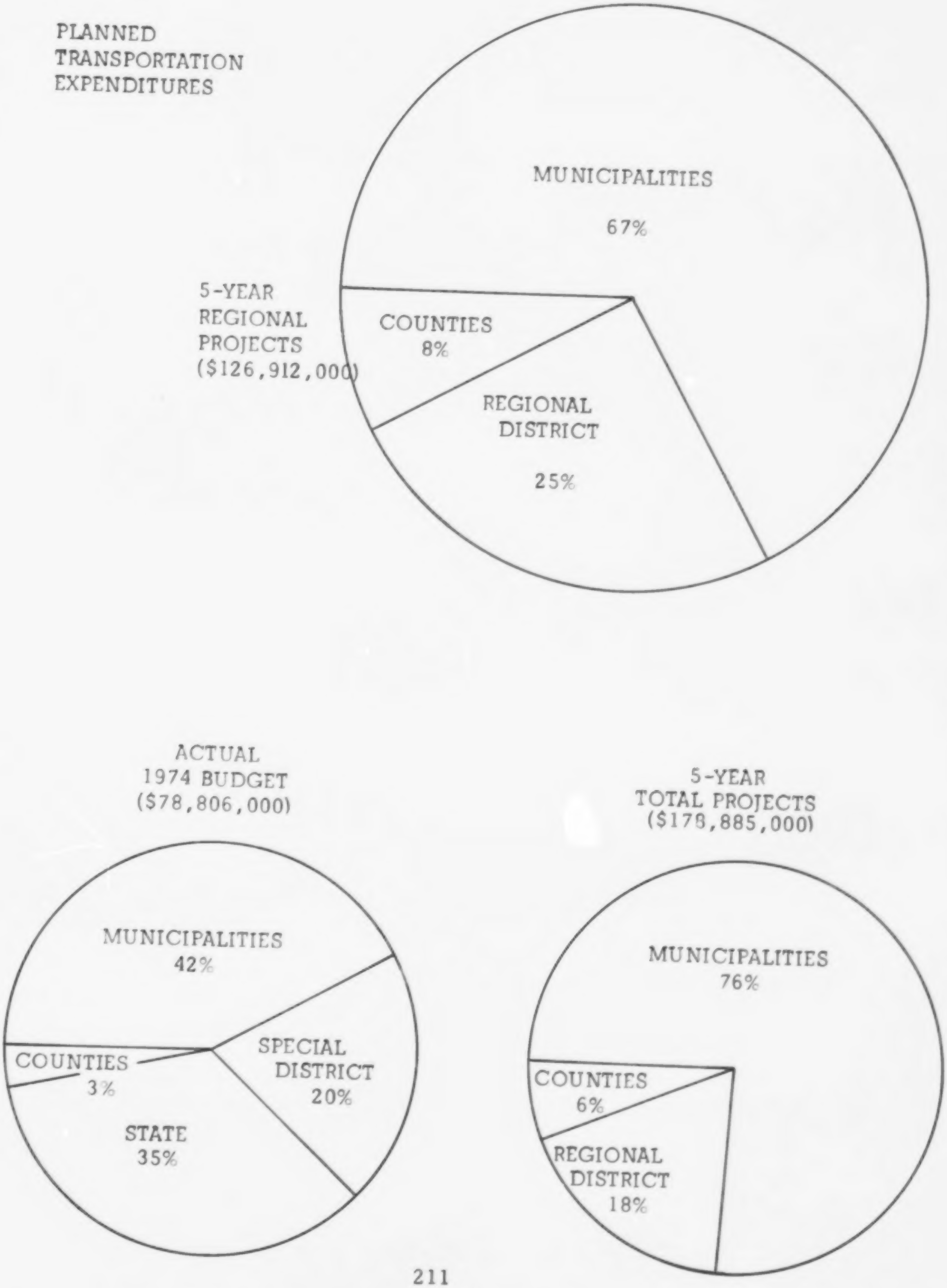
6	Kipling (85) Lakewood	3,000
6	Kipling (86) Lakewood	4,936
6	Broadway (93) Littleton	45
6	104th Avenue (96) Northglenn	350
6	104th/Washington (104) Thornton	77
6	Pecos (115) Adams County	840
6	72nd Avenue (118) Adams County	313
6	Arapahoe Road (120) Arapahoe County	145
5	Buckley Road Bridge (6) Aurora	33
5	Buckley Road Bridge (7) Aurora	300
5	Chambers Road Bridge (12) Aurora	83
5	Chambers Road Box (13) Aurora	50
5	Chambers Road (15) Aurora	410
5	Chambers Road (16) Aurora	60
5	Chambers Road (17) Aurora	200
5	Iliff Avenue (22) Aurora	45
5	Mississippi (24) Aurora	30
5	Peoria Street (26) Aurora	75
5	Quincy Avenue (29) Aurora	120
5	6th Avenue (32) Aurora	130
5	Iliff Bridge (34) Aurora	70
5	28th/30th (40) Boulder	1,200
5	Alameda Underpass (47) Denver	1,350
5	Broadway (49) Denver	300
5	Champa/Stout (50) Denver	370
5	Evans Parkway (52) Denver	1,550
5	Jewell (54) Denver	60
5	University (60) Denver	400
5	Yosemite (63) Denver	1,200
5	1st Avenue (65) Denver	60
5	6th Avenue Overpass (66) Denver	850
5	8th Avenue Overpass (67) Denver	750
5	Monaco Bridge (74) Denver	720
5	Washington (81) Golden	17
5	Jewell (83) Lakewood	1,600
5	Jewell (83) Lakewood	45
5	Washington (94) Northglenn	600
5	104th Avenue (97) Northglenn	90
5	Quincy (101) Sheridan	20
5	104th Avenue (103) Thornton	1,265
5	44th Avenue Bridge (113) Wheatridge	461
5	Support Equipment (139) RTD	1,200
5	Bus Shelters (141) RTD	1,490
5	Bus Garage (142) RTD	7,000

4	Buckley Road (8) Aurora	67
4	Buckley Road (9) Aurora	175
4	Buckley Road (10) Aurora	100
4	Buckley Road (11) Aurora	175
4	Chambers Road (18) Aurora	150
4	Quincy Avenue (30) Aurora	40
4	Sable Blvd. Bridge (31) Aurora	325
4	Hampden Bridge (33) Aurora	67
4	Broadway (38) Boulder	500
4	Valmont Road (41) Boulder	100
4	Alameda Parkway (46) Denver	3,300
4	Havana (53) Denver	640
4	Kalamath/Santa Fe (56) Denver	1,500
4	Mississippi Separation (58) Denver	2,000
4	Quincy Parkway (59) Denver	630
4	15th Street Bridge (69) Denver	2,000
4	19th Street Bridge (70) Denver	2,000
4	38th Street (72) Denver	830
4	Yale (88) Lakewood	735
4	Garrison (90) Lakewood	1,350
4	Mississippi (91) Lakewood	155
4	Simms (92) Lakewood	350
4	120th Avenue (98) Northglenn	300
4	112th Avenue (99) Northglenn	180
4	120th Avenue (106) Thornton	574
4	72nd/Federal (110) Westminster	250
4	80th Avenue (111) Westminster	566
4	44th Avenue (112) Wheat Ridge	100
4	44th Avenue (114) Wheat Ridge	275
4	Bowles Avenue (121) Arapahoe County	30
4	Old Golden Road (122) Jefferson County	320
4	Improvements - SIA (128) Denver	733
3	Chambers Road (19) Aurora	60
3	Pearl/Spruce (39) Boulder	1,950
3	Bromley Lane (42) Brighton	11
3	Alameda Road/Bridge (48) Denver	830
3	Cherry Creek Parkway (51) Denver	5,330
3	Kalamath/Santa Fe (55) Denver	2,200
3	Yosemite (64) Denver	1,200
3	Steele St. Bridge (78) Denver	290
3	20th Avenue (79) Edgewater	100
3	Jackson (80) Golden	5
3	Garrison (89) Lakewood	550
3	Colorado (102) Thornton	1,907
3	88th Avenue (105) Thornton	500
3	84th Avenue (109) Thornton	500

2	Quincy Bridge (43) Cherry Hills	80
2	60th/Colorado (44) Commerce City	900
2	West 48th Avenue (73) Denver	190
2	Huron Avenue (100) Northglenn	300
1	Quincy Avenue (35) Aurora	150
1	13th Avenue Bridge (36) Aurora	25
1	13th Avenue (37) Aurora	150
1	Dartmouth Bridge (75) Denver	300
1	Evans (76) Denver	300
1	Quincy Parkway (77) Denver	1,000
1	Washington (107) Thornton	1,125
1	Lowell (119) Adams County	285
0	Huron (108) Thornton	977
TOTAL REGIONAL TRANSPORTATION		126,912

FIGURE 14

PLANNED TRANSPORTATION EXPENDITURES



CAPITAL IMPROVEMENT SUMMARY
(000's)

REGIONAL PROJECTS		**FUNCTIONAL AREA** Transportation **JURISDICTION** Agency Summary					
PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
Municipalities							
*Arvada	592	117	2,678				3,387(3%)
*Aurora	1,585	1,150	293	640	752		4,420(3%)
*Boulder	1,300						3,750(3%)
Bow Mar							
*Brighton							11
Broomfield							
*Cherry Hills	80						80
Columbine Valley							
*Commerce City				900			900
*Denver	1,970	10,115	10,115	6,837	6,837	6,837	46,962(37%)
*Edgewater	100						100
Englewood							
Erie							
Federal Heights							
Glendale							
*Golden	22						22
Greenwood Village							
Jamestown							
Lafayette							
*Lakewood							
*Littleton	45						45
*Longmont							48
Louisville							
Lyons							
Morrison							
*Northglenn	1,000	900	180	300		90	2,470(2%)
*Sheridan	20						20
*Thornton	7	1,765	1,907	1,547	574	1,125	6,925(5%)
*Westminster	60					756	816
*Wheat Ridge	461	375					836
Total Municipalities	7,242	15,855	19,033	12,719	12,464	10,678	84,751(67%)

TABLE 36

CAPITAL IMPROVEMENT SUMMARY
(000's)

REGIONAL PROJECTS		**FUNCTIONAL AREA** Transportation **JURISDICTION** Agency Summary					
PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
Counties							
*Adams County	288	1,120		1,560		285	3,193(2%)
*Arapahoe County	25						6,175(5%)
*Jefferson County	320						845
Total Counties	573	1,120		1,560		405	10,213(8%)
State							
Colorado Department of Highways							
Regional Special Districts							
Regional Transportation District	3,304	11,747	5,436	5,730	5,730		31,948(25%)
Total Regional Transportation	11,119	28,722	24,469	20,009	18,194	11,083	126,912(100%)

HOUSING

SUMMARY

NEEDS

Regional long-term physical housing needs have not been defined and short-term needs have been defined only as a matter of policy for low and moderate income housing and in the 1972-76 period. The regional housing policy primarily addresses the current needs of low and moderate income groups for adequate housing.

FUNDING REQUIREMENTS

Resource requirements have not been determined for defined short-term low and moderate income housing needs nor has the nature and extent of the resources (if any) to meet short-term housing assistance needs been determined.

OBJECTIVES/POLICIES

Objectives and Policies for the Regional Housing System were derived from a set of statements in A Regional Housing Plan - Policies and their Implementation, adopted December, 1972 by the Council.

SELECTION CRITERIA

The selection of projects determined to be "Regional" in nature was based on the following general criteria which was used to judge whether or not the project would have:

Interjurisdictional Impact

- Funded, operated or owned by more than one jurisdiction
- Significant effect on government, citizens, development or environment of more than one local government
- Extensive use by citizens of more than one local jurisdiction

Regional Impact

- Significant effect on any adopted areawide plan, system, program or policy

The selection criteria was further defined in terms unique to the specific functional area of Housing.

Pages 214, 215 and 216 are Blank.

PRIORITY CRITERIA

The criteria used to determine relative priorities was developed in order to facilitate ranking among projects within the functional area of Housing. In the absence of any adopted system in this area, the criteria used was derived from the adopted objectives and policies.

While the system used in deficient in many respects, it serves as a demonstration of the typeof methodology to be applied in order to achieve a priority ranking.

HOUSING

NEEDS

- Development of efficient land use measures to conserve local resources and alleviate congestion, overcrowding and a general deterioration of the "quality of life" which results from urban sprawl is needed.
- "Balanced" housing to accommodate all income levels is not currently available. There is a shortage of low and moderate-income level housing in all areas of the region and skyrocketing building costs have frozen many middle-income homebuyers out of the market.
- A minimum of 24,175 non-subsidized and 5,400 subsidized housing units should be produced each year, so that all metropolitan families can occupy standard housing.
- The present "need" is 2 1/2 times the average market production for the previous decade.

TABLE 37

HOUSING

PLANNING AREA	1972-77 NEEDS Low-Income*	 Moderate-Income**
Arvada	313	407
Aurora	713	864
Boulder	359	1014
Broomfield	65	97
Cherry Hills Village	65	97
Commerce City	45	0
Edgewater	32	49
Englewood	194	292
Golden	43	40
Greenwood Village	43	65
Lafayette	9	13
Lakewood	799	1070
Littleton	216	324
Longmont	162	66
Northglenn	86	130
Sheridan	35	11
Thornton	9	0
Westminster	151	153
Wheat Ridge	238	341
Denver	2564	3191
Adams County	875	478
Arapahoe County	842	1264
Boulder County	734	1081
Jefferson County	767	1042
Total Housing Needs	9359	12,095

* Low-Income: $0-4000/year
** Moderate-Income: $4000-9000/year

HOUSING

FUNDING REQUIREMENTS

- While there has been no significant change in the need for housing in the region, the assistance available has been reduced to minimum levels. This reduction is consistent with the direction of the national administration to decentralize the national housing program and provide support for the consumer to acquire suitable and adequate housing as opposed to the federal government's long term direct involvement in the housing construction business.

- The State of Colorado has established a Colorado Finance Authority to support local housing authorities in financing the development of low and moderate income housing. Financing can be made available through the Authority at a rate 1/2 % above that obtainable through the State; which should be well under the mortgage market today and in the foreseeable future and which offers local development authorities practical financing for needed low cost housing with rental at or below the national proverty income standard. The State program, coupled with an expanded federal program of supplementing income for housing, can make it possible for local governments to realistically increase the supply of affordable, decent, low and moderate income housing.

HOUSING

OBJECTIVES

- The assurance that every resident have available at a price he can afford, decent, safe, and sanitary housing in a good environment of his choice;
- The provision of assistance for citizens who can least afford a decent home and a suitable living environment near places of employment;
- The lowering of the cost of housing and the creation of a "quality of life" incorporating sound physical and social planning principles;
- The increase in the number of dwelling units, especially for low and modest income families and individuals.

- A Regional Housing Plan - Policies and their Implementation, DRCOG. December 1972.

HOUSING

POLICIES

- A policy framework shall be provided for regional and local decisions on housing;
- Areas of the housing development process shall be identified where a regional role is most desirable and a definition shall be developed for DRCOG's role as a facilitator in the process;
- The A-95 clearing house function shall be used to promote maximum co-ordination and impact of the Regional Housing Plan with other adopted regional plans;
- A central monitoring, information and coordination center shall be established on all housing development;
- Citizen support shall be developed for the policy;
- The benfits of consolidating housing services into a regional service authority shall be explored;
- The development of a land bank shall be explored and a means shall be devised to lower the cost of land inventory and sites suitable for low-income housing.

- A Regional Housing Plan- Policies and their Implementation, DRCOG. December 1972.

HOUSING

SELECTION CRITERIA

A Capital Improvement Project in this functional area is considered Regional in nature if the project may be classified as involving any of the following categories:

- Public Projects
    - Owned
    - Leased

HOUSING

PRIORITY CRITERIA

CRITERIA	2 POINTS	1 POINT	0 POINTS
REGIONAL PLAN	Fully Consistent	Needs Special Consideration	Not Consistent
LOCAL COMMITMENT	Immediate Capability (1974)	Capable in Near Future (1975-76)	Capable in Distant Future (1977-80)
NEED	Alleviates Existing Problems or Deficiencies	Alleviates Potential Problems or Deficiencies	Serves Projected Development
EXTENT OF SERVICE	Major Segment of Population	Average Segment of Population	Minor Segment of Population
ENVIRONMENTAL IMPACT	Positive	Moderate	Negative
COST/BENEFIT RATIO	Good	Average	Poor

HOUSING

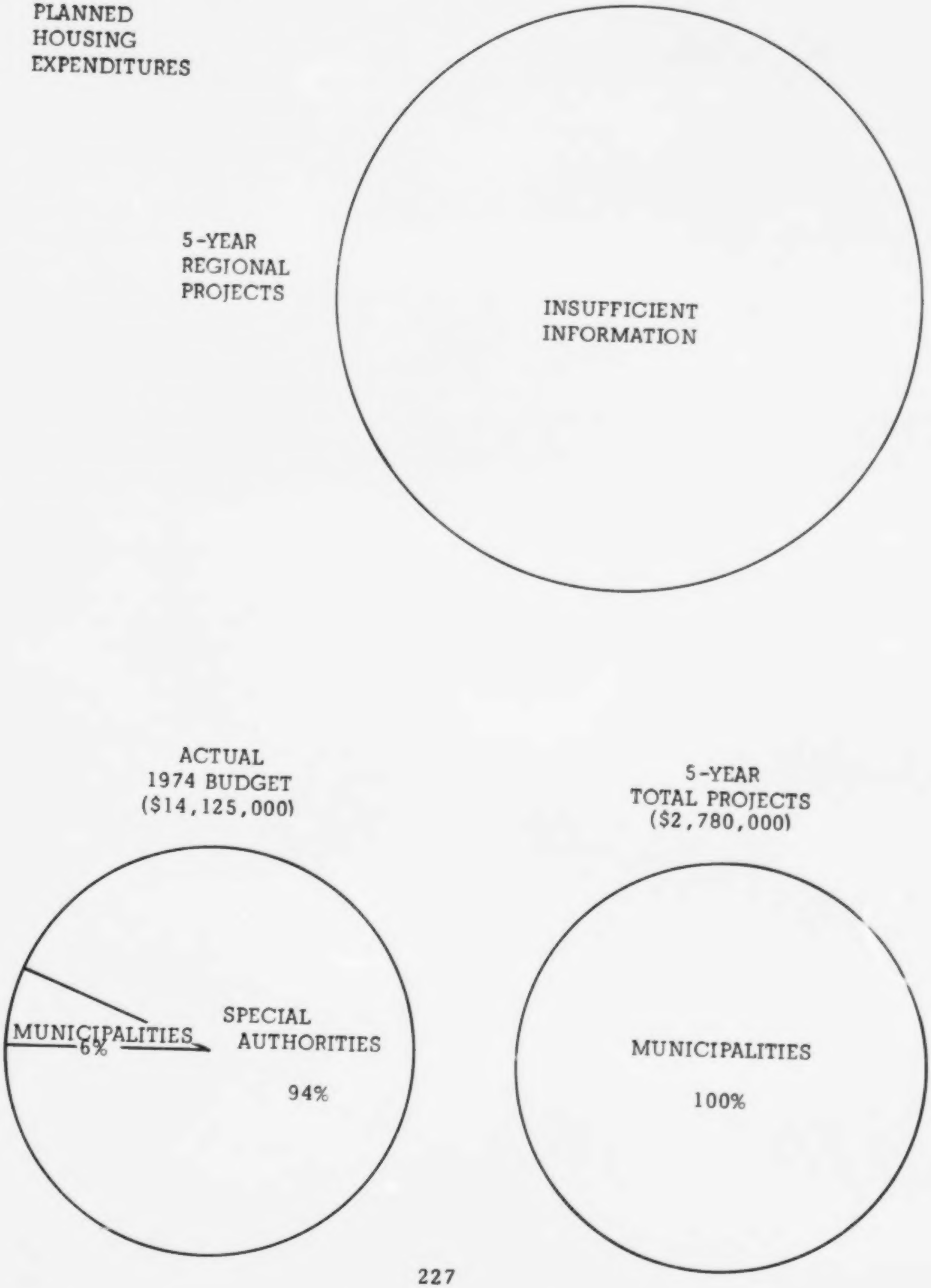
PRIORITY CRITERIA

WORK SHEET

PROJECT NUMBER	REGIONAL PLAN	LOCAL COMMITMENT	NEED	EXTENT OF SERVICE	ENVIRONMENTAL IMPACT	COST/BENEFIT RATIO	POLICY BOARD DISCRETION		TOTAL POINTS

FIGURE 15

PLANNED HOUSING EXPENDITURES



C. INTERFUNCTIONAL PROGRAM

1. INTRODUCTION

The Regional Capital Improvement Program is one element of the Regional Development Plan. This relationship is shown in Figure 16. Where the Regional Development Plan is the overall statement governing the development of the Denver Region, The Regional Development Program is the long-term description of specific project needs and funding requirements which would be necessary for the accomplishment of the Development Plan. As a result, the Development Program is more specific than the plan but still addresses development in a long-range perspective.

The Regional Capital Improvement Program (RCIP) provides the short-term statement of capital needs of the region. Where the Development Program covers a time frame of 1975 to 2010, the RCIP is concerned only with the immediate five-year period. In each case, the programs become more and more specific. The RCIP deals not only with general regional project needs, but addresses specific staging and project implementation.

The Interfunctional Program element of the Regional Capital Improvement Program is designed to integrate the individual programs of each functional area into a single regional development statement for short-term capital improvements. The program is presented in several sections:

(1) Introduction
(2) Regional Needs
(3) Regional Funding Requirements
(4) Regional Goals
(5) Regional Policies
(6) Interfunctional Priority Criteria
(7) Preparation of a Final RCIP

A general overview of each of these sections is presented below and a summary of the Interfunctional Program is available in the RCIP Summary section of this report which begins on page II-2:

(2) REGIONAL NEEDS
The basic intermediate-range needs for the region are summarized. The development needs for each functional area are listed in a table in summary form.

(3) REGIONAL FUNDING REQUIREMENTS
The funding requirements to meet the development needs of the region are presented in a format similar to the NEEDS section. Both a summarized statement as well as table are available.

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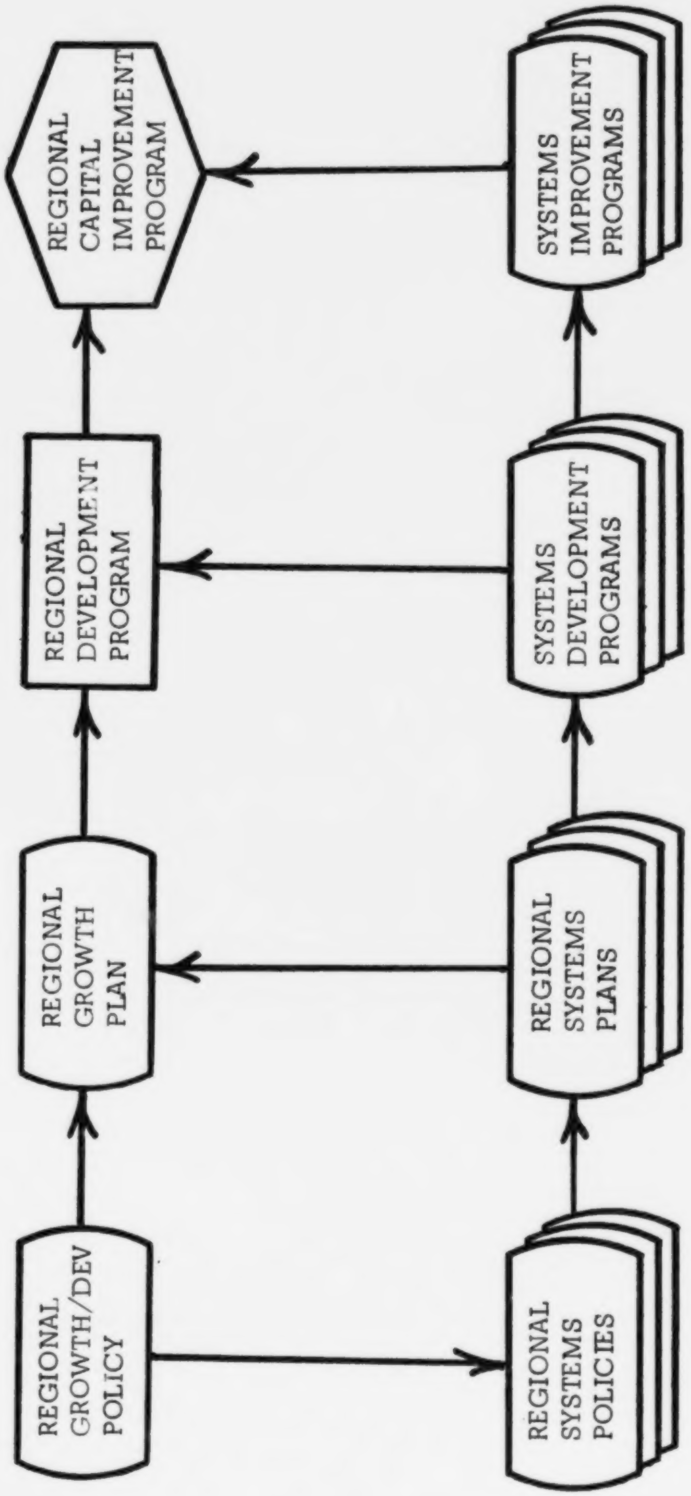
THE REGIONAL DEVELOPMENT PLAN


REGIONAL GROWTH/DEV POLICY
REGIONAL GROWTH PLAN
REGIONAL DEVELOPMENT PROGRAM
REGIONAL CAPITAL IMPROVEMENT PROGRAM
REGIONAL SYSTEMS POLICIES
REGIONAL SYSTEMS PLANS
SYSTEMS DEVELOPMENT PROGRAMS
SYSTEMS IMPROVEMENT PROGRAMS

(4) REGIONAL GOALS

Goals for the region were derived from a set of statements in Regional Goals, adopted by DRCOG April 1972.

(5) REGIONAL POLICIES

Development Policies for the region were derived from a set of statements in Comprehensive Land Use Policies, adopted by DRCOG January 1973 and June 1974.

(6) INTERFUNCTIONAL PRIORITY CRITERIA

Regional improvement programming ultimately involves the setting of priorities among capital improvements to insure the allocation of scarce resources in accordance with adopted goals, policies, plans, and programs.

No priority system is presently in use. Without the past development of a ranking procedure to serve as the basis for a priority analysis, only one possible priority methodology was developed. While many possible solutions may be proposed, the fundamental decision rests with the actual decision maker. As this project is only intended to be of a demonstrational nature, the accompanying priority criteria system is only one possible solution.

(7) PREPARATION OF A FINAL RCIP

The priority methodology which was developed was used in a demonstration application in order to provide an example of a final Regional Capital Improvement Program. The resulting lists should be interpreted only as a representative example of the application of a sample priority methodology.

2. REGIONAL NEEDS

- Regional needs may initially be addressed as a composite of the needs described in each of the individual functional areas. Statements of these needs are contained in each of the functional area program sections of this report and will not be repeated in this section. A summary is presented in Table 38.
- While these individual summaries serve as the basis for an overall regional need statement, it is necessary to further integrate these separate and distinct areas into a single, concise description of the needs of the region. This process is presently being attempted in the preparation of the Regional Development Plan.
- The vehicle for consolidating the regional needs into a single statement is the development of a Growth Plan/Policy Report in conjunction with the Regional Development Plan. This Report in its final form is expected to:
    - Establish a basic regional development concept.
    - Set forth in a single place all of the adopted development policies - population, land use, transportation, water, sewer, etc.
    - Establish the levels of population, employment and housing that the region can expect in the year 2010 (in part as a result of development policies).
    - Describe the physical environment of the region.
    - Establish the constraints on the pattern and intensity of development (natural hazards, preservation of productive lands, soils suitability, etc.)
    - Assess in regional overview the environmental impact of development.
    - Outline the environmental quality controls exercised by local, state and federal governments and relate environmental management to growth.
    - Establish the allocation of activity (residence and employment) over time consistent with development policies, forecasted activity levels, and development constraints.
    - Relate growth to the functional systems required to support and service growth.

- Present the future allocation of activity for the year 2010 in the form of a "growth plan."

- Outline existing and potential development controls exercised by by local and state governments.

TABLE 38

ADDITIONAL REGIONAL NEEDS

FUNCTIONAL AREA	1971-80	1981-90	1991-00	2000-10	TOTAL
TOTAL WATER*					
Supply	86	98	80	80	366
Treatment	232	245	243	243	1,028
Storage	98	68	87	87	378
Pumping	315	263	272	272	1,233
TOTAL WASTEWATER*					
Regional WWTP's	1	1	1		3
Satellite WWTP's	2	1			3
Interim WWTP's	(1)				
Sewer Miles	92	140	163		395
Interim Lift Stations		(1)	(1)		
Sludge Disposal	1,969	1,464	467		3,900
TOTAL DRAINAGE*					
Preventative Miles	804.4	36.8			841.2
Design Miles	183.9	65.8			249.8
Rehabilitation Miles	46.3	29.0			75.2
Construction Miles	4.4	45.5			49.9
Conduit Miles	0.4	10.2			10.6
Structures	57	64			121
Storage Facilities	4	1			5
TOTAL PARKS*					
Total Regional Parks	10,109				

FUNCTIONAL AREA	1971-80	TOTAL
TOTAL HIGHWAY SYSTEM		
Limited Access Miles		83.9
Principal Arterial Miles		123.9
Total Miles		207.8
TOTAL MASS TRANSIT SYSTEM		
PRTGuideway Miles		98
PRT Vehicles		1,400
PRT Stations		60
PRT Park/Ride Facilities		15
TOTAL AIRPORT SYSTEM*		
Runways		8
Capacity		1,876
Use		3,973
TOTAL HOUSING*		
Low-Income Units	9,359	9,359
Moderate-Income Units	12,095	12,095
Total Units	21,454	21,454

Water*	Supply in thousands of acre feet, Treated Water Storage in millions of gallons, and Treatment and Pumping in millions of gallons per day
Wastewater*	Sludge Disposal Sites in acres
Drainage*	Miles in Channel Miles
Parks*	Regional Parks in acres
Airport*	Capacity and Use in thousands of annual operations
Housing*	Low-Income: $0-4000/year Moderate-Income: $4-9000/year

3. REGIONAL FUNDING REQUIREMENTS

- The Regional Development Plan (RDP) is scheduled to include a section termed the "Regional Development Program". It will outline the funding requirements by stage for the development of each functional system and attempt to address funding sources, levels and limitations by system. This process was explained in the Introduction of this section. A chart which depicts this relationship is shown in Figure 16.

- Work on this section of the RDP is being carried out concurrently with preparation of physical system statements and will use the statements in part as input.

- At a minimum, the Regional Development Program will present a staged program for the capital development of all planned physical systems with recognition of other fiscal considerations.

- Table 38 presents the physical needs of each of the functional areas and Table 39 translates these needs into funding requirements.

- Funding needs in Table 39 are given in 1000's of constant 1973 dollars.

TABLE 39

FUNDING REQUIREMENTS
(Thousands of Constant 1973 Dollars)

FUNCTIONAL AREA	1971-80	1981-90	1991-00	2000-10	TOTAL
WATER	181,705	194,630	173,739	173,739	723,813
WASTEWATER	107,391	126,932	119,630	-	353,953
DRAINAGE	17,620	32,100	76,628	-	126,348
PARKS	155,005	-	-	-	155,005
TRANSPORTATION					
Highway	301,200	453,900	466,900		1,222,000
Transit	924,800	135,000	-		1,059,800
Airport	900	176,800	82,100		259,800
Total	1,226,900	765,700	549,000	-	2,541,600
TOTAL	1,688,621	1,119,362	918,997	173,739	3,900,719
ADJUSTED TOTALS*					
4% Inflation	1,823,711	1,790,979	2,178,023	609,824	6,402,537
6% Inflation	1,891,256	2,249,918	3,308,389	1,120,617	8,570,180
8% Inflation	1,975,687	2,820,792	4,999,344	2,039,696	11,835,519
10% Inflation	2,043,231	3,514,797	7,480,636	3,667,630	16,706,294

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*Compounded annually to middle of period

Inflation factors:		
	4%	1.08/1.60/2.37/3.51
	6%	1.12/2.01/3.60/6.45
	8%	1.17/2.52/5.44/11.74
	10%	1.21/3.14/8.14/21.11

4. REGIONAL GOALS

- Ethical management or utilization of the natural resources of the region;
- Attainment of an optimum population size and population distribution for the region;
- A diversified and balanced regional economy;
- Creation of spacially identifiable communities which contain a variety of human activities;
- An aesthetically pleasing environment for all types of human activities (i.e., living, working, shopping, recreation - leisure or traveling between activities);
- Equitable distribution of government services throughout the region;
- Efficient performance of an adequate level of government services;
- Government which is responsive to the needs and seeks out the wishes of all citizens of the region;
- High quality in a diversity of educational opportunities;
- The highest possible level of environmental health for the citizens of the region;
- Assurance of the safety and mental well-being of all people in the region;
- Maximum opportunity for social and cultural interaction between the various ethnic, religious, and racial groups of the region.

- Regional Goals, DRCOG. Adopted April, 1972.

5. REGIONAL PLAN POLICIES

- A population level below 2,350,000 should be encouraged for the five-county Denver Metropolitan Area by the year 2000. In all planning activities conducted by the Denver Regional Council of Governments, a year 2000 forecast of 2,350,000 people for the five county Denver Metropolitan area will be used.
- The Central Business District of Denver will be encouraged as the major high-density core of business, cultural, governmental, commercial, and residential activity. Major high density corridors east, west, and south from the CBD shall be encouraged.
- Several major activity centers shall be encouraged in the Metropolitan Area.
- New, low-density, residential growth should be encouraged only in locations contiguous to existing urban areas while recognizing local ecological, environmental, or social concerns as they might affect the location of a specific development.
- New industrial development should be encouraged only insofar as suitable locations could be found where environmental hazard potential can be effectively controlled or minimized. Major new employment concentrations of any type should be closely analyzed as to their total regional and state impact. The analysis should carefully consider the adverse costs, such as peak hour travel, work trip, and public service costs.
- Major unique urban areas presently within the Denver SMSA will be encouraged to remain unique; that is, not to ultimately be allowed to expand and run together into a nondescript, low-density urban sprawl.
- Major areas of ecological, environmental, agricultural, historic, and archeological significance shall remain in a natural open or low-density nonurban condition.
- The Regional Housing Plan directed at the provision of a decent home for every family, and in particular, the low and moderate income groups, shall be an integral component of all Denver Regional Council of Governments Land Use planning activities and particularly in relation to transportation, employment opportunities, and social services.

- Comprehensive Plan Policies, DRCOG. Adopted January, 1973 and June, 1974.

6. INTERFUNCTIONAL PRIORITY CRITERIA

A. Introduction

Regional improvement programming ultimately involves the setting of priorities among capital improvements to insure the allocation of scarce resources in accordance with adopted goals and policies.

Given the development of regional improvement programs for each functional area, the next stage of the RIP process involves the integration of these functional area improvement programs into a single, collective program.

There are certain requirements which must be considered in the development of an integrated RCIP:

- Comprehensive Regional Development Plan
  Any interfunctional priority should reflect the guidelines of a comprehensive regional development plan. A regional plan integrates the various functional areas and establishes regional goals, objectives, and policies. An initial attempt to integrate plans was made in the recent adoption of Land Use, Highway and Public Transportation plans as a related set of plans for regional development.

  The Regional Development Plan (RDP), which is in the process of preparation, is attempting to relate all of the adopted DRCOG plans and programs.

- Service Area and Sub-Area Analysis
  Long-range plans developed by the Denver Regional Council of Governments have not included short-term capital improvement programs. The plans are not designed to be programmatic so that translation into staged development and funding needs for service or sub-areas of the region is not possible in most cases.

  Priorities on an interfunctional basis, as well as for functional areas, are related to the sub-area in question. The diversity of characteristics of a sub-area would indicate an integrated but unique treatment for each area.

  The degree of urbanization and density might indicate a different treatment. One area might best be served with small neighborhood parks, while another might need a single, large community park. Although the needs could differ, the cost might be the same, and the ultimate decision would depend on the requirements of the specific sub-area.

Drainage requirements have been acknowledged to vary considerably. While one area might best be served with open drainage-way channels, another, more densely populated area might require conduits. Housing and Transportation requirements also vary considerably according to the relative income and land use characteristics of the specific area.

While the relative extent of development of water and wastewater systems must also be considered, there is a necessity to coordinate the programmed development of each functional system within the context of the combined needs of the specific sub-area. For example, the relationship to other programmed projects should be addressed so that if a priority water project is proposed which will provide expanded water service capacity, other projects which provide other necessary services will be considered.

A recent example of a situation concerning this potential problem arose when the Denver Water Board announced the expansion of water service to the Green Mountain South Subdivision, whether or not sewer service would also be available. This decision by a single functional agency is expected to serve as an impetus to the development of the area. Potential problems which could arise include the lack of coordination of properly staged services as well as the lack of allowance for some form of input from other agencies which would be affected by the growth of the area.

- Analysis of Funding Availability and Commitment
  As initially directed, funding availability has not been addressed directly in the development of the Regional Improvement Program. But the ability to commit a project to construction is, in the final analysis, a very important factor for inclusion of the project in the RCIP. An analysis of funding capabilities will be required to avoid the "wish-list" approach to regional capital improvement programming.

> The ability to establish a commitment to a development program is a primary prerequisite to the success of that program. Additionally, the possible transfer of funds between sub-areas, as well as between functional systems should be addressed. Little transfer of funds is now possible in either case, even on a voluntary basis with a consensus.
>
> In addition to funding ability, the desire to establish a commitment to a project may also serve as a fundamental constraint. The implementation of the RCIP will depend on various political factors arising from public support and approval of projects.
>
> The recognition of available fiscal resources and agency support of projects should be addressed in order to insure a realistic regional improvement program.

In consideration of these concerns, an attempt was made to develop an interfunctional priority system which would overcome any limitations. The system applied in this Regional Capital Improvement Program uses the previously determined functional area priorities as a base and then applies several additional criteria to determine if any re-ordering of priorities is necessary for an interfunctional RCIP. The application of interfunctional criteria was accomplished in accordance with the process outlined in Figure 17.

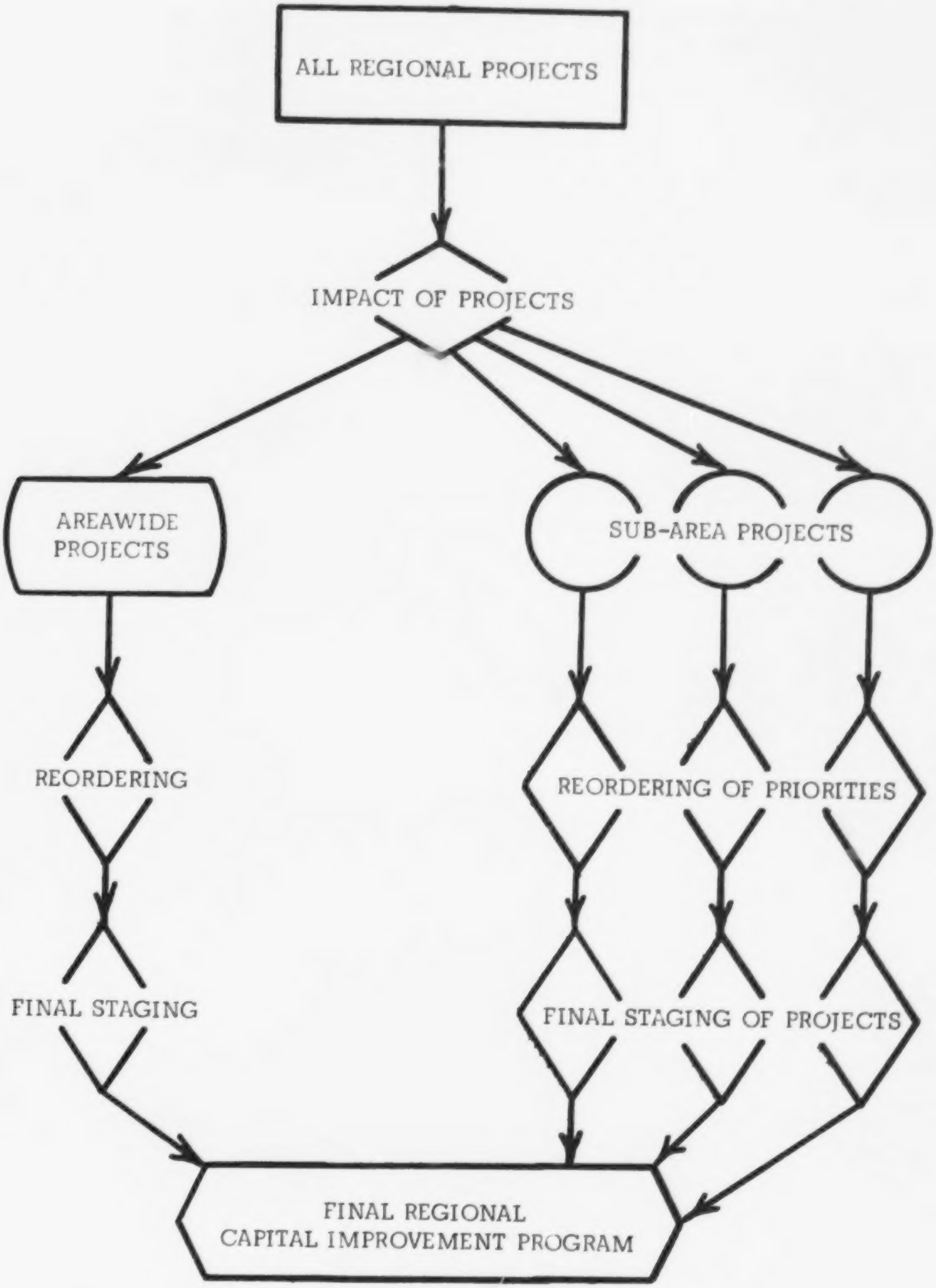
B. Impact of Projects

Initially, all projects of regional significance were classified into two categories, areawide projects and sub-area projects. During the course of the study, it was determined that some capital projects have considerably more potential impact than others. While some projects may impact only the sub-area of the region, such as Southern Jefferson County, or Western Adams County, or Boulder, or Rural Boulder, other projects may involve two or more sub-areas and even the region as a whole. An example of an areawide project would be a major water acquisition project, or the development of a transit line serving several sub-areas.

The implications of this differentiation in the level of projects resulted in the decision to approach the question of interfunctional analysis by first classifying projects according to their relative impact. Those projects which were judged to impact a single sub-area of the region were grouped together by that sub-area, while those projects determined to be of areawide significance were classified separately.

FIGURE 17

INTERFUNCTIONAL PRIORITY RANKING


ALL REGIONAL PROJECTS
IMPACT OF PROJECTS
AREAWIDE PROJECTS
SUB-AREA PROJECTS
REORDERING
REORDERING OF PRIORITIES
FINAL STAGING
FINAL STAGING OF PROJECTS
FINAL REGIONAL CAPITAL IMPROVEMENT PROGRAM

C. Reordering of Priorities

Within each classification, sub-area or areawide, the projects remained ranked according to the functional area priority which was established previously unless they were re-ordered by the application of the interfunctional criteria. In order to accomplish this criteria application, a point system was used. Points were assigned to each project according to the extent or degree that the project satisfied the criteria. The interfunctional re-ordering criteria consisted of three elements:

- Functional Need
- Growth Consistency
- Relationship to Other Projects

Point assignments were made in accordance with this set of interfunctional criteria and any re-ordering of project priorities was accomplished. This process is outlined in Figure 18 and each of the three criteria as discussed below:

- Functional Need
  Points are assigned according to the relative rank that the project was previously assigned within its specific functional area.

  The original relative priority ranking of a project served as the basis for any further re-ordering of priorities on an interfunctional basis.

- Growth Consistency
  Points are assigned according to the extent that the project is consistent with growth and development policies and guidelines established in the Regional Development Plan.

  According to the established directions of the Regional Development Plan, which is now being prepared, both areawide as well as sub-area projects may be judged for interfunctional consistency. Sub-area projects may be judged according to the RDP Growth Plan/Policy and be rated according to established growth guidelines for each sub-area.

  The criteria for measuring development consistency within each sub-area may be based on a hierarchy of needs: (1) The highest priority would be assigned

FIGURE 18

INTERFUNCTIONAL

PRIORITY CRITERIA

RE-ORDERING CRITERIA	2 POINTS	1 POINT	0 POINTS
FUNCTIONAL NEED	High	Moderate	Low
GROWTH (RDP)	Fully Consistent	Needs Special Consideration	Not Consistent
RELATED PROJECTS	Directly Related	Some Relationship	Related

STAGING CRITERIA	1974	1975-76	1977-80
FUNDING AVAILABILITY	Immediate	Near Future	Future
COMMITMENT	Immediate	Near Future	Future

to those projects which would serve an immediate need within the present urban service area. (2) The next priority class would consist of those projects which would meet an established or committed schedule for services to support development of areas outside the present service area. (3) The lowest priority would be assigned to those projects which would serve areas beyond those presently scheduled for development and the provision of urban services.

Areawide projects may be judged more strictly. Rather than using only growth guidelines to determine consistency, areawide projects may be required to meet specific criteria listed in the Regional Development Plan under the applicable functional area. The criteria might even involve the actual designation of the specific project in the functional area system development program.

- Relationship to Other Projects
  Points are assigned according to the extent that the project is necessary to insure coordination with another related project.

  Not only growth consistency would be addressed, but also the degree to which the project complemented or conflicted with another project. The relative timing of projects is often critical. Many projects in one category are essential to the success of projects in other categories. In some instances significant Federal or State grants will be involved, and the agency may be required to provide its matching share or forfeit the grant.

  While not all related projects are critical in terms of timing, some projects may have some influence on others, such as the interrelated nature of many water and wastewater projects. This interdependency should be considered when assigning priorities in order to insure some degree of continuity of urban services to an area.

D. Final Staging of Projects

Once this consistency/compatability check is completed, each classification undergoes a final step to determine staging. An analysis is made of funding availability in order to determine potentially available support for each project, and an analysis is made of the commitment of the agency to the project.

Factors in addition to funding, such as the time required to plan or coordinate approval before the project may be committed to construction may weigh heavily in the actual staging of the project.

In addition to ability, the degree of public support and agency commitment may figure decisively in the final staging of the project. This final staging process is outlined in Figure 18.

E. Final Regional Capital Improvement Program

As a result of this analysis, a staged development program is available for areawide projects, as well as for each sub-area within the Denver Region. The final step of the RCIP preparation is the combination of each of these programs into a staged listing. This listing, whether it takes the form of separately classified chapters or a single composite listing, is the final Regional Capital Improvement Program.

7. PREPARATION OF A FINAL RCIP

Introduction

As a result of the difficulties discussed in the previous section, Interfunctional Priority Criteria, only a demonstration application of the criteria was undertaken for this project. A limited areawide program was developed, as well as a program for one sub-area of the region. The preparation of those programs is explained in this section.

In the application of the criteria to projects, an assignment of points was only made when sufficient information on a project existed. As a result, even with the use of a generalized system, a complete analysis of many of the projects could not be made and projects with more complete information did, for the most part, rank higher.

Areawide Program

A demonstration of the application of an interfunctional priority criteria to areawide projects was prepared. A rigid definition of "areawide" projects was not developed as such a definition is dependent in part on a future determination of sub-area boundaries, so only those projects which were clearly areawide in impact were considered.

The worksheet which was used to determine point assignments for projects classified as areawide in impact is included. The resulting priority list for areawide projects is shown in Table 40. Staging of the projects is shown for each functional area: Water (Table 41), Wastewater (Table 42), Parks (Table 43), and Transportation (Table 44). Table 45 is an agency summary of planned expenditures for areawide capital projects.

Sub-Area Programs

As a demonstration of this approach to establishing interfunctional priorities, one sub-area was selected for an application of the above procedures. No sub-area definitions have been developed to date which are common to each functional area. In the selection of a sub-area for demonstrational purposes, an attempt was made to realize some degree of compatability between each functional area. Natural and political divisions, such as drainage basins, jurisdictional boundaries, and service areas were hopefully accounted for. The sub-area selected for the demonstration application was Southern Jefferson County (South Jeffco Sub-Area). Other sub-areas in the region would be programmed in a similar manner.

Maps which describe the boundaries of this sub-area are included, as well as lists of the agencies which serve the sub-area. Figures 19, 20, and 21 establish the relative boundaries of the South Jeffco Sub-Area.

Figures 22 and 23 describe the Current and Proposed Urban Service Areas. For the purposes of this demonstration program, the Current Urban Service Area was defined as the present urbanized area. The Proposed Urban Service Area will be consistent with the adopted land use plan and will be established by the Regional Development Plan when it is completed. Figures 24, 25, 26 and 27 describe the boundaries and list the agencies which have jurisdiction within the South Jeffco Sub-Area.

The worksheet which was used to determine point assignments for projects classified as impacting the South Jeffco Sub-Area is included. The resulting priority list for this sub-area is shown in Table 46. Staging of the projects is shown for each functional area: Water (Table 47), Wastewater (Table 48), Drainage (Table 49), Parks (Table 50 , and Transportation (Table 51). Table 52 is an agency summary of planned expenditures for South Jeffco Sub-Area capital projects.

Summary

An example summary of the final Regional Capital Improvement Program is presented in Table 16. The staged program would call for an expenditure of $155,000,000 on projects classified as areawide in impact. This represents 31% of the total planned regional capital expenditures. $43,000,000 was programmed for the South Jeffco Sub-Area. This was 9% of the $502,000,000 regional total.

INTERFUNCTIONAL

PRIORITY CRITERIA

WORK SHEET

AREA-WIDE PROJECTS

PROJECT NUMBER		RE-ORDERING CRITERIA					STAGING CRITERIA		
		FUNCTIONAL NEED	GROWTH (RDP)	RELATED PROJECTS		TOTAL POINTS	FUNDING AVAILABILITY	COMMITMENT CAPABILITY	
Water	49	2	1			3	1974		
	50	2	1			3	1974		
	51	2	1			3	1974		
	52	2	1			3	1974		
	53	2	1			3	1974		
	56	2	1			3	1974		
	57	2	1			3	1974		
	58	2	1			3	1974		
	59	2	1			3	1974		
	60	1	1			2	1975		
	61	1	1			2	1975		
	66	2	1			3	1974		
	67	2	1			3	1974		
	68	2	1			3	1974		
	69	2	1			3	1974		
	70	2	1			3	1974		
	73	2	1			3	1974		
	81	2	1			3	1974		
	87	1	1			2	1975		
Wastewater	22	2	2			4	1974		
	23	2	2			4	1974		
	24	1	2			3	1975		
	25	2	2			4	1974		
	26	2	2			4	1974		
	28	2	2			4	1974		
Parks	161	2	1			3	1974		
Transpotation	123	2	1			3	1974		
	124	2	1			3	1974		
	125	2	1			3	1974		
	126	1	1			2	1974		
	127	1	1			2	1974		
	128	1	1			2	1974		
	132	2	2			4	1974		
	133	1	2			3	1975		
	134	1	1			2	1976		
	135	2	2			4	1974		
	136	2	2			4	1974		
	137	2	2			4	1974		

INTERFUNCTIONAL

PRIORITY CRITERIA

WORK SHEET

AREA-WIDE PROJECTS

	RE-ORDERING CRITERIA					STAGING CRITERIA		
PROJECT NUMBER	FUNCTIONAL NEED	GROWTH (RDP)	RELATED PROJECTS		TOTAL POINTS	FUNDING AVAILABILITY	COMMITMENT CAPABILITY	
Transportation 138	2	2			4	1974		
139	1	1			2	1975		
140	1	2			3	1974		
141	1	1			2	1976		
142	1	1			2	1976		

TABLE 40

INTERFUNCTIONAL

PRIORITY LIST

AREA-WIDE PROJECTS

Project (Project Number) Agency	Total Cost ($000's)
WATER	
Bear Creek - Phase I (49) Denver Water	714
Bear Creek - Phase II (50) Denver Water	1,515
North Fork South Platte (51) Denver Water	452
Fraser-Williams Fork (52) Denver Water	5,581
Eagle-Piney Project (53) Denver Water	7,787
Eleven Mile Outlet (56) Denver Water	65
Roberts Tunnel (57) Denver Water	240
Gross Dam (58) Denver Water	1,711
Antero Dam (59) Denver Water	250
Foothills Intake Dam (66) Denver Water	15,761
Foothills Tunnel (67) Denver Water	14,730
Moffat Treatment Plant (68) Denver Water	891
North Side Marston (69) Denver Water	300
Demonstration Plant (70) Denver Water	3,005
Foothills Treatment Plant (73) Denver Water	10,219
Marston Pumps (81) Denver Water	299
Dillon Dam Outlet (60) Denver Water	50
Ralston Dam (61) Denver Water	50
Moffat Pumps (87) Denver Water	1,069
Total Area-Wide Water	64,689
WASTEWATER	
Primary Treatment (22) Metro Sewage	3,830
Secondary Treatment (23) Metro Sewage	12,400
Liquid Sludge & Land Application (26) Metro	6,370
Anaerobic Digestion (25) Metro Sewage	5,760
Platte River II Interceptor (28) Metro Sewage	16,090
Advanced Treatment (24) Metro Sewage	9,300
Total Area-Wide Wastewater	53,750
PARKS	
Chatfield Reservoir (161) State	697
TRANSPORTATION	
Suburban Acquisitions (132) RTD	248
Bus Facility (135) RTD	7,665
Radios (136) RTD	681

Project (Project Number) Agency	Total Cost ($000's)
TRANSPORTATION (Con't)	
Supervisory Vehicles (137) RTD	21
Fare Boxes (138) RTD	128
Bus Shelters (140) RTD	1,595
Bluff Lake Fence - SIA (123) Denver	59
Concorse A-SIA (124) Denver	895
East/West Runway-SIA (125) Denver	160
Transit Coaches (133) RTD	5,220
Fire House - SIA (126) Denver	468
Runway - SIA (127) Denver	1,747
Transit Buses (134) RTD	6,700
Improvements - SIA (128) Denver	733
Support Equipment (139) RTD	1,200
Bus Shelters (141) RTD	1,490
Bus Garage (142) RTD	7,000
Total Area-Wide Transportation	36,010
TOTAL AREA-WIDE	155,146

TABLE 41

CAPITAL IMPROVEMENT SUMMARY
(000's)

AREAWIDE PROJECTS		FUNCTIONAL AREA Water JURISDICTION Areawide					
PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
Water Projects							
Bear Creek - Phase I (49) Denver Water	714						714
Bear Creek - Phase II (50) Denver Water	440	1,075					1,515
North Fork South Platte (51) Denver Water	352	25	25	25	25		452
Fraser-Williams Fork (52) Denver Water	281	300	500	1,500	3,000		5,581
Eagle-Piney Project (53) Denver Water	537	250	500	1,500	5,000		7,787
Eleven Mile Outlet (56) Denver Water	10	55					65
Roberts Tunnel (57) Denver Water	240						240
Gross Dam (58) Denver Water	82	1,629					1,711
Antero Dam (59) Denver Water	10	240					250
Foothills Intake Dam (66) Denver Water	732	5,608	8,500	921			15,761
Foothills Tunnel (67) Denver Water	472	7,171	6,230	857			14,730
Moffat Treatment Plan (68) Denver Water	891						891
North Side Marston (69) Denver Water	230	70					300
Demonstration Plant (70) Denver Water	135	2,200	670				3,005
Foothills Treatment Plant (73) Denver Water	770	5,143	3,170	1,136			10,219
Marston Pumps (81) Denver Water	299						299
Dillon Dam Outlet (60) Denver Water		50					50
Ralston Dam (61) Denver Water		25	25				50
Moffat Pumps (87) Denver Water		81	607	381			1,069
Total Areawide Water	6,195	23,922	20,227	6,320	8,025		64,689
Water Agencies							
Denver Water Board	6,195	23,922	20,227	6,320	8,025		64,689

TABLE 42

CAPITAL IMPROVEMENT SUMMARY
(000'S)

AREA-WIDE PROJECTS		**FUNCTIONAL AREA** Wastewater **JURISDICTION** Area-Wide					
PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
Wastewater Projects							
Primary Treatment (22) Metro Sewage	2,090	1,740					3,830
Secondary Treatment (23) Metro Sewage	6,820	5,580					12,400
Liquid Sludge & Land Application (26) Metro	3,210	3,160					6,370
Anaerobic Digestion (25) Metro Sewage	1,730	4,030					5,760
Platte River II Interceptor (28) Metro Sewage	800	3,500	6,000	5,790			16,090
Advanced Wastewater Treatment (24) Metro		15	2,715	6,570			9,300
Total Area-Wide Wastewater	14,650	18,025	8,715	12,360			53,750
Wastewater Agencies							
Metro Sewage	14,650	18,025	8,715	12,360			53,750

TABLE 43

CAPITAL IMPROVEMENT SUMMARY
(000's)

AREA-WIDE PROJECTS

FUNCTIONAL AREA Parks

JURISDICTION Area-Wide

PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
Parks Projects							
Chatfield Reservoir (161) State	697						697
Parks Agencies							
State Department of Outdoor Recreation	697						697

TABLE 44

CAPITAL IMPROVEMENT SUMMARY
(000's)

AREAWIDE PROJECTS	**FUNCTIONAL AREA** Transportation **JURISDICTION** Areawide					
PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
Transportation Projects							
Suburban Acquisitions (132) RTD	248						248
Bus Facility (135) RTD	1,681	5,178	806				7,665
Radios (136) RTD	442	239					681
Supervisory Vehicles (137) RTD	8	13					21
Fare Boxes (138) RTD	128						128
Bus Shelters (140) RTD	797	797					1,595
Bluff Lake Fence - SIA (123) Denver	59						59
Concorse A - SIA (124) Denver	895						895
East/West Runway - SIA (125) Denver	160						160
Transit Coaches (133) RTD		5,220					5,220
Fire House - SIA (126) Denver	468						468
Runway - SIA (127) Denver	1,747						1,747
Transit Buses (134) RTD			1,500	2,600	2,600		6,700
Improvements - SIA (128) Denver	733						733
Support Equipment (139) RTD		300	300	300	300		1,200
Bus Shelters (141) RTD			497	497	497		1,490
Bus Garage (142) RTD			2,333	2,333	2,333		7,000
Total Areawide Transportation	7,366	11,747	5,436	5,730	5,730		36,010
Transportation Agencies							
Regional Transportation District	3,304	11,747	5,436	5,730	5,730		31,948
Denver (SIA)	4,062						4,062
Total Areawide Transportation	7,366	11,747	5,436	5,730	5,730		36,010

TABLE 45

CAPITAL IMPROVEMENT SUMMARY
(000's)

AREAWIDE PROJECTS

FUNCTIONAL AREA Total

JURISDICTION Agency Summary

PROJECTS	1974	1975	1976	1977	1978	1979	ESTIMATED TOTAL COST
Municipalities							
Arvada							
Aurora							
Boulder							
Bow Mar							
Brighton							
Broomfield							
Cherry Hills							
Columbine Valley							
Commerce City							
*Denver (SIA)	4,062						4,062
Edgewater							
Englewood							
Erie							
Federal Heights							
Flendale							
Golden							
Greenwood Village							
Jamestown							
Lafayette							
Lakewood							
Littleton							
Longmont							
Louisville							
Lyons							
Morrison							
Northglenn							
Sheridan							

CAPITAL IMPROVEMENT SUMMARY
(000'S)

AREAWIDE PROJECTS	FUNCTIONAL AREA Total						
	JURISDICTION Agency Summary						
PROJECTS	1974	1975	1976	1977	1978	1979	ESTIMATED TOTAL COST
Municipalities (Con't)							
Thornton							
Westminster							
Wheat Ridge							
Total Municipalities	4,062						4,062(3%)
Counties							
Adams County							
Arapahoe County							
Boulder County							
Jefferson County							
Total Counties							
State							
Colorado Department of Highways							
*Division of Parks and Outdoor Recreation	697						697
Total State	697						697
Regional Special Districts							
*Denver Water Board	6,195	23,922	20,227	6,320	8,025		64,689(42%)
*Metropolitan Sewer District	14,650	18,025	8,715	12,360			53,750(35%)
Urban Drainage District							
*Regional Transportation District	3,304	11,747	5,436	5,730	5,730		31,948(20%)
Total Regional Special Districts	24,149	53,694	34,378	24,410	13,755		150,387(97%)

CAPITAL IMPROVEMENT SUMMARY
(000'S)

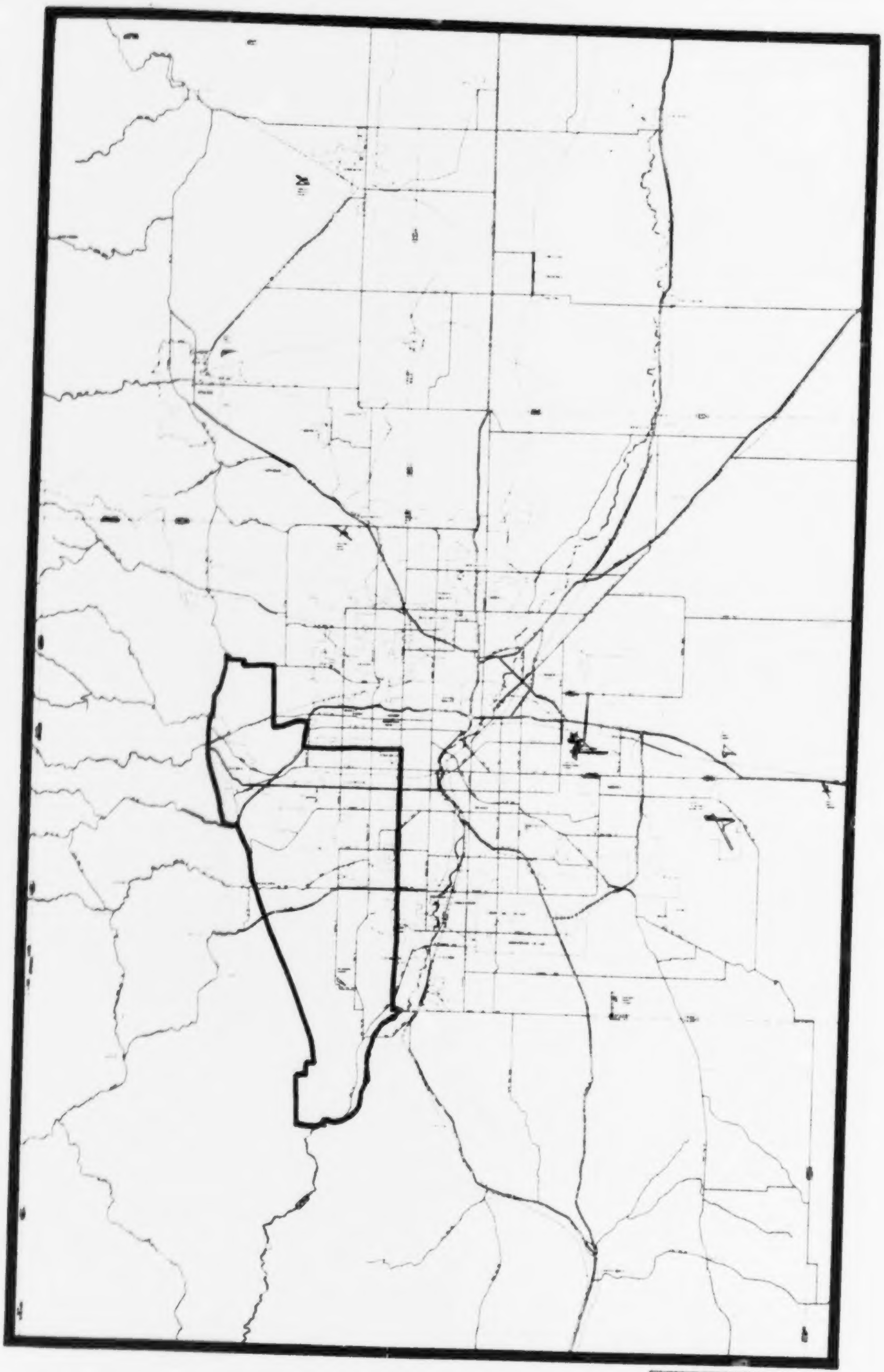
AREAWIDE PROJECTS

FUNCTIONAL AREA Total

JURISDICTION Agency Summary

PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
Special Authorities							
Boulder Housing Authority							
Englewood Housing Authority							
Lakewood Housing Authority							
Littleton Housing Authority							
Denver Housing Authority							
Adams County Housing Authority							
Denver Urban Renewal Authority							
Longmont Urban Renewal Authority							
Louisville Urban Renewal Authority							
Total Special Authorities							
Local Special Districts							
Water and Sanitation Districts (67)							
Water Districts (41)							
Sanitation Districts (40)							
Park and Recreation Districts (18)							
Fire Protection Districts (33)							
School Districts (14)							
Total Local Special Districts							
Total Areawide Projects	28,908	53,694	34,378	24,410	13,755		155,146(100%)

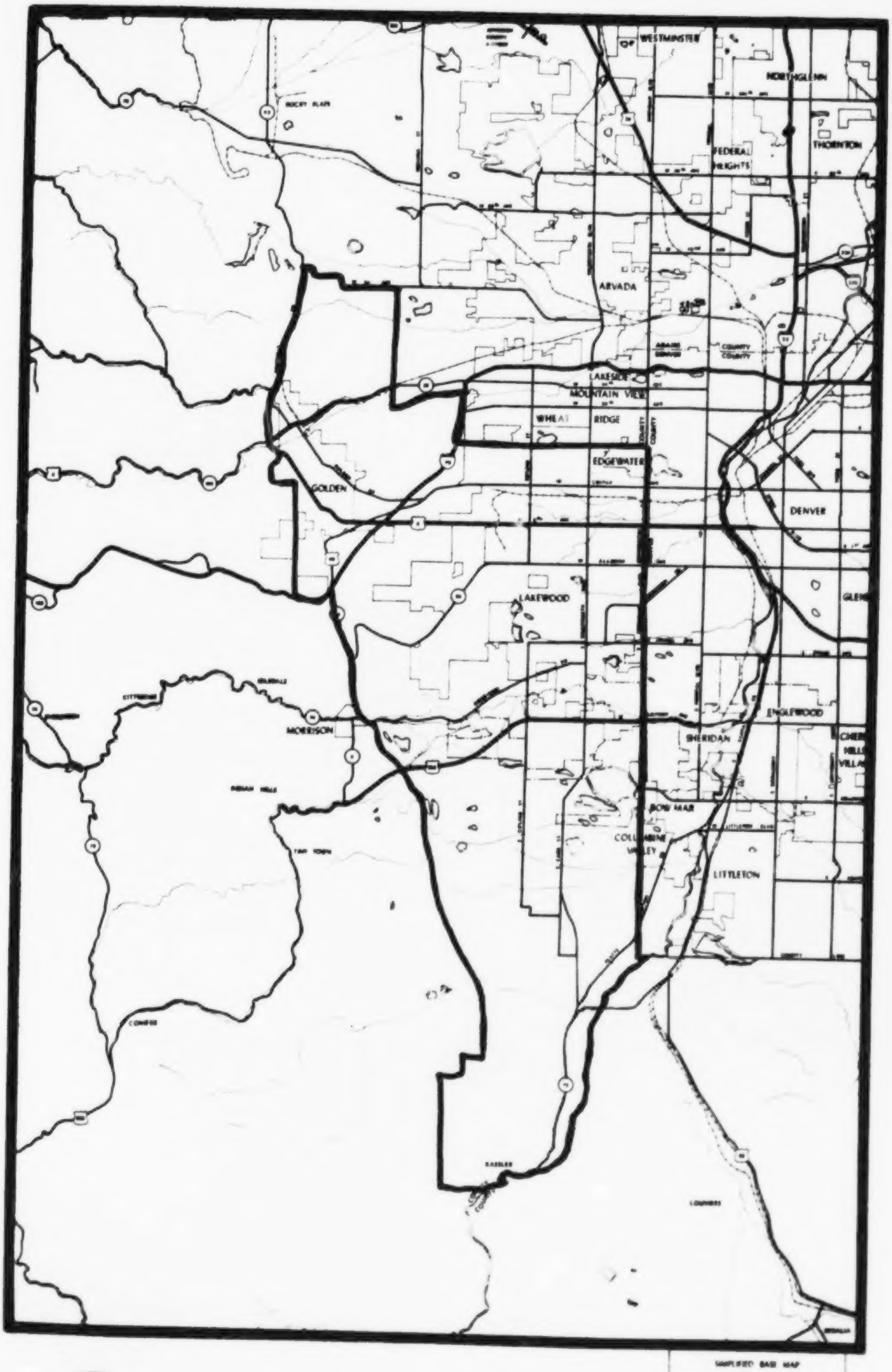
FIGURE 19



SOUTH JEFFCO SUB-AREA

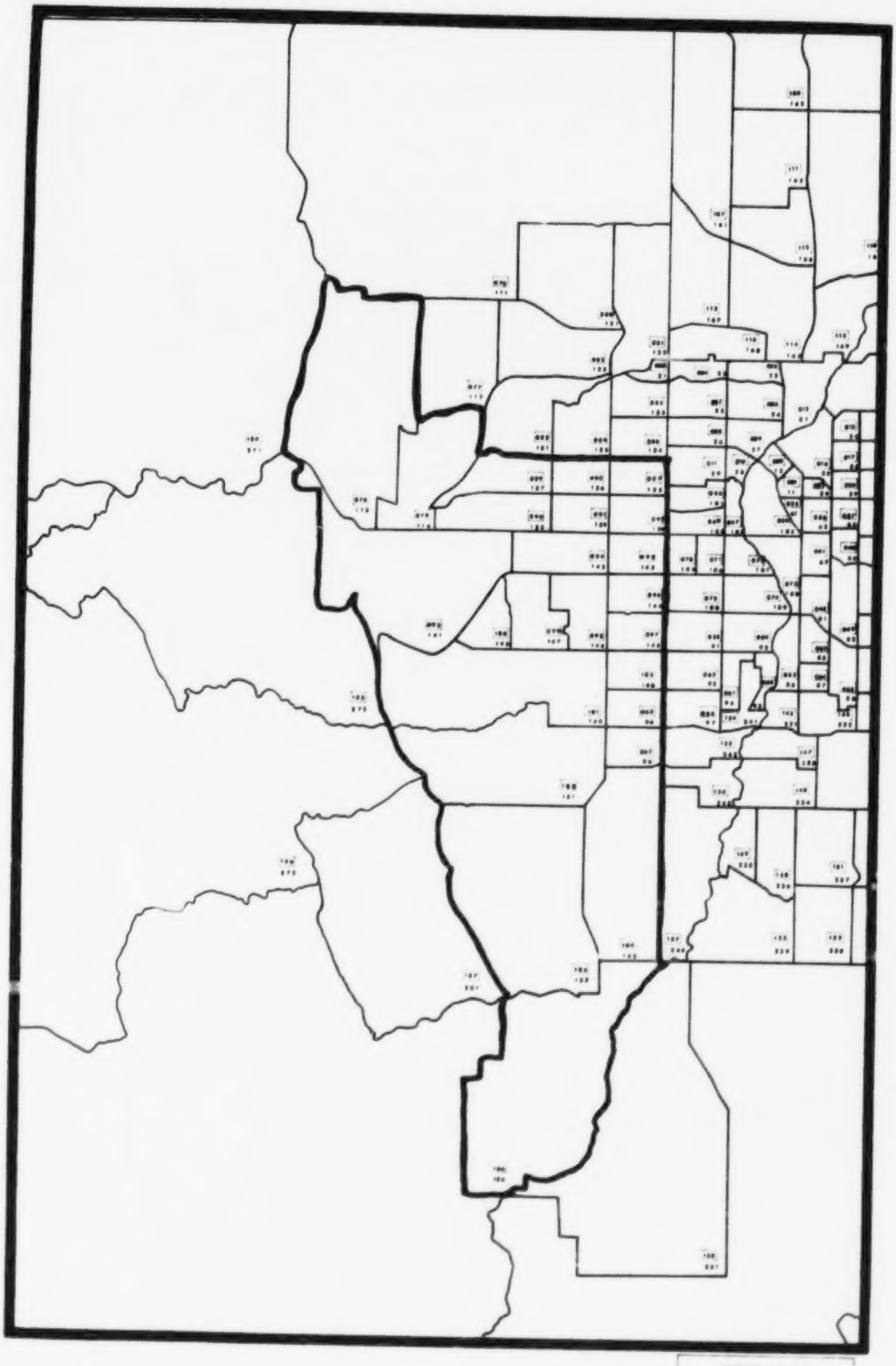
SIMPLIFIED BASE MAP

FIGURE 20


WESTMINSTER
NORTHGLENN
THORNTON
FEDERAL HEIGHTS
ROCKY FLATS
ARVADA
ADAMS COUNTY
DENVER COUNTY
LAKESIDE
MOUNTAIN VIEW
WHEAT RIDGE
EDGEWATER
GOLDEN
DENVER
LAKEWOOD
ENGLEWOOD
SHERIDAN
MORRISON
INDIAN HILLS
TINY TOWN
BOW MAR
COLUMBINE VALLEY
LITTLETON
CONIFER
KASSLER
LOUVIERS

SOUTH JEFFCO SUB-AREA

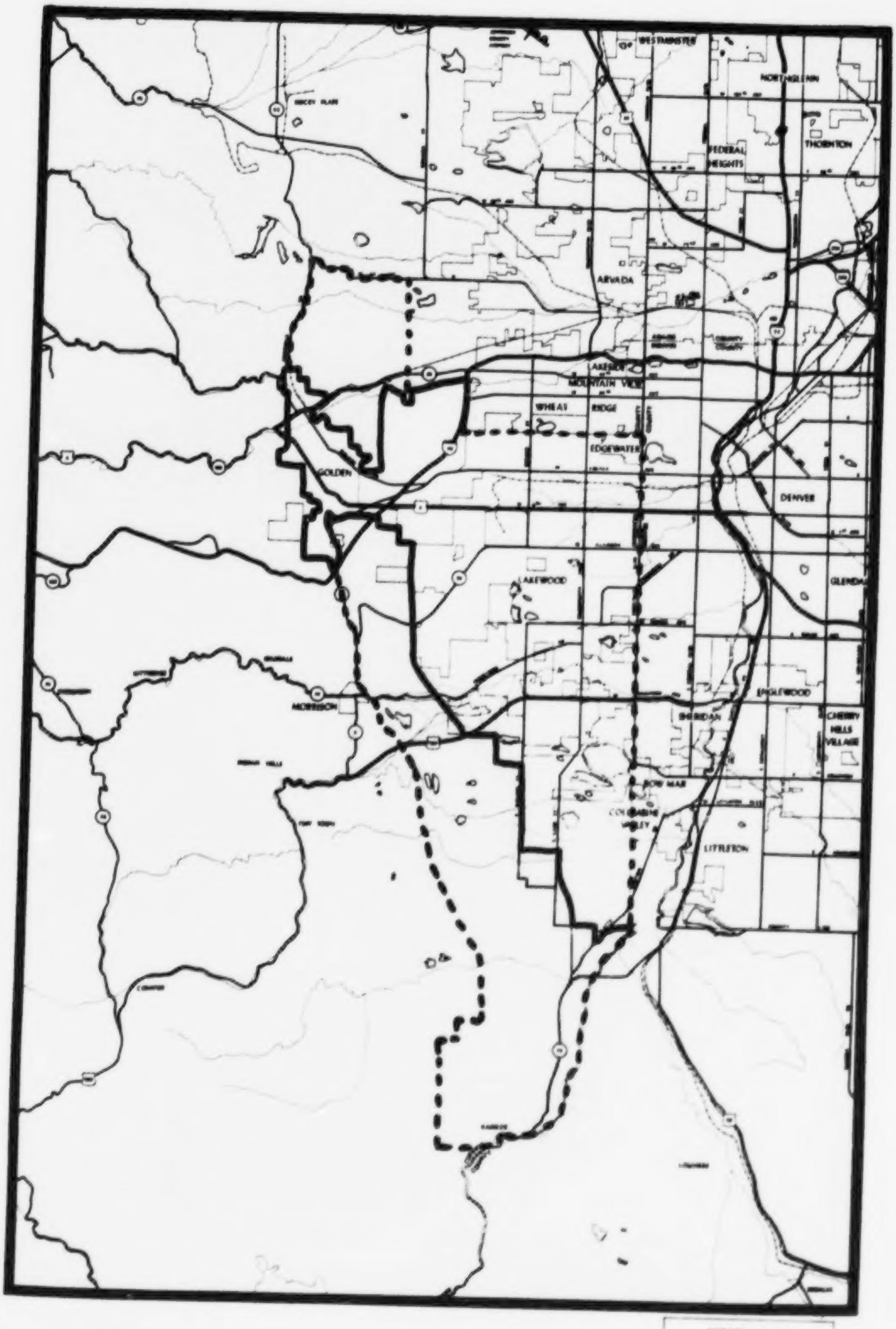
FIGURE 21



SIMPLIFIED BASE MAP

SOUTH JEFFCO SUB-AREA

FIGURE 22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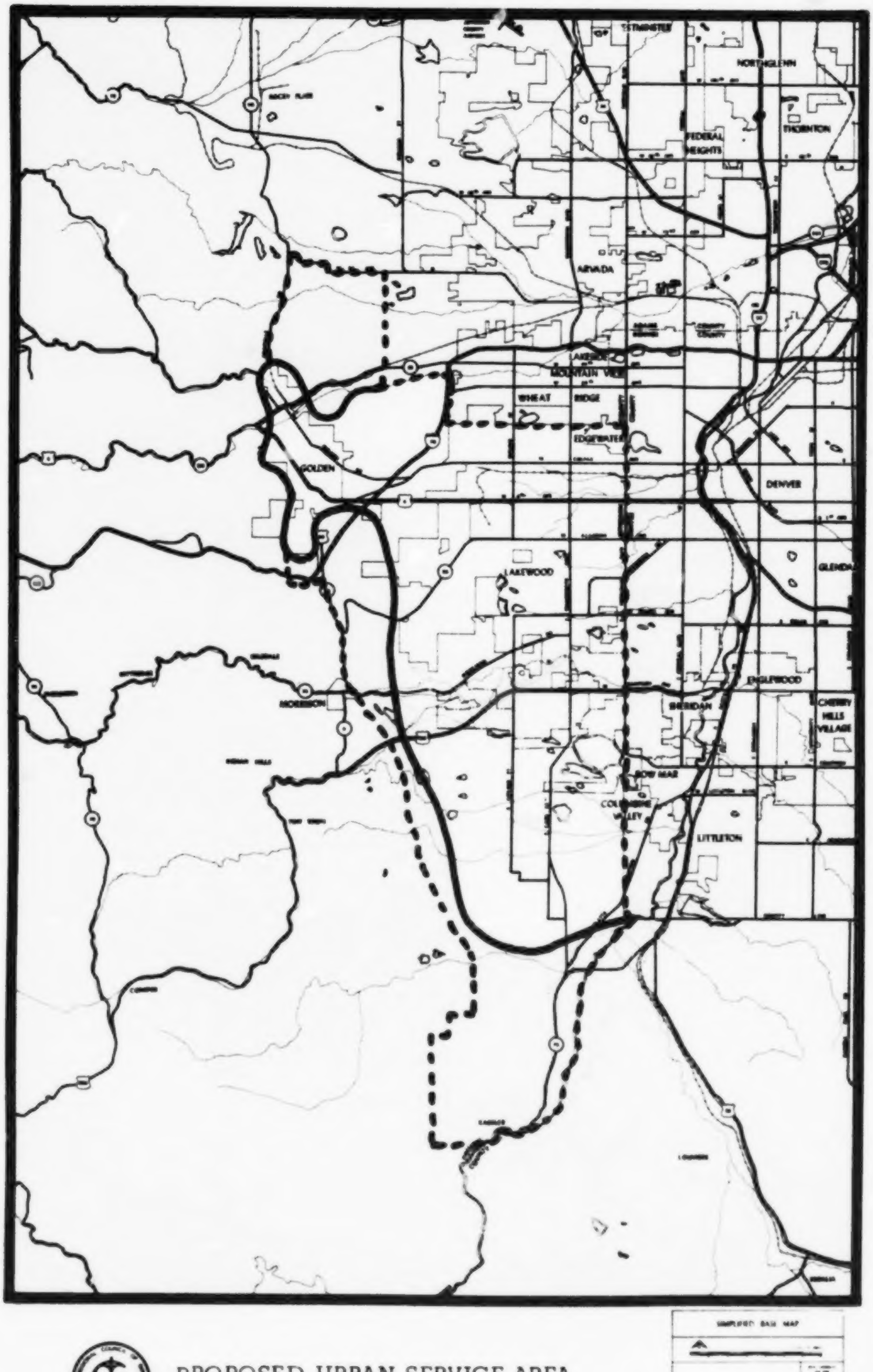
NORTHGLENN
THORNTON
FEDERAL HEIGHTS
ARVADA
LAKESIDE
MOUNTAIN VIEW
WHEAT RIDGE
EDGEWATER
GOLDEN
DENVER
LAKEWOOD
GLENDA
MORRISON
ENGLEWOOD
SHERIDAN
CHERRY HILLS VILLAGE
BOW MAR
COLUMBINE VALLEY
LITTLETON

CURRENT URBAN SERVICE AREA

FIGURE 23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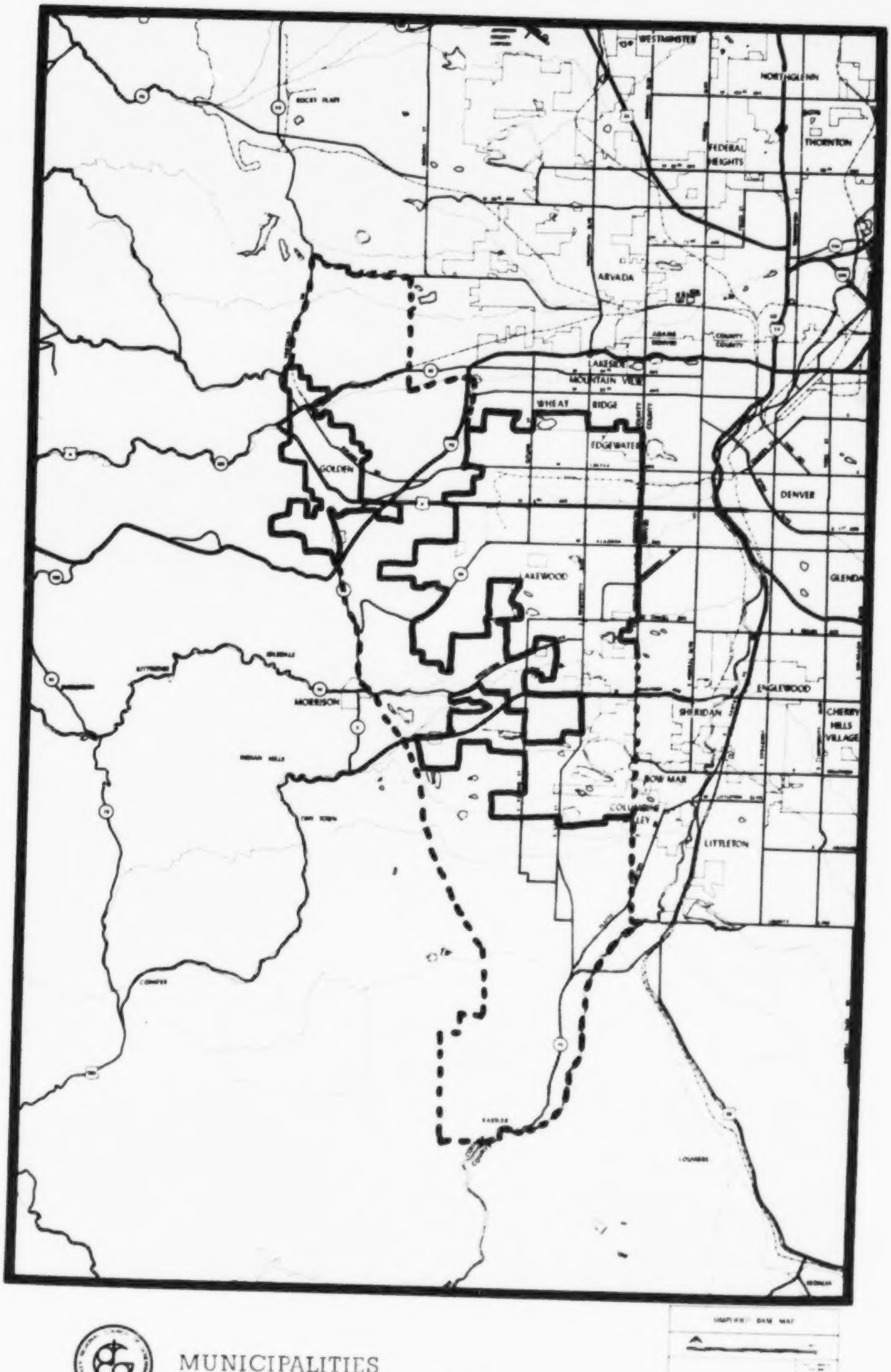
NORTHGLENN
THORNTON
FEDERAL HEIGHTS
ARVADA
LAKESIDE
MOUNTAIN VIEW
WHEAT RIDGE
EDGEWATER
GOLDEN
DENVER
GLENDALE
LAKEWOOD
ENGLEWOOD
SHERIDAN
CHERRY HILLS VILLAGE
MORRISON
BOW MAR
COLUMBINE VALLEY
LITTLETON

SIMPLIFIED BASE MAP

PROPOSED URBAN SERVICE AREA

267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NORTHGLENN
ROCKY FLATS
FEDERAL HEIGHTS
THORNTON
ARVADA
LAKESIDE
MOUNTAIN VIEW
WHEAT RIDGE
EDGEWATER
GOLDEN
DENVER
LAKEWOOD
GLEND
MORRISON
ENGLEWOOD
SHERIDAN
CHERRY HILLS VILLAGE
BOW MAR
COLUMBINE VALLEY
LITTLETON

FIGURE 24

MUNICIPALITIES

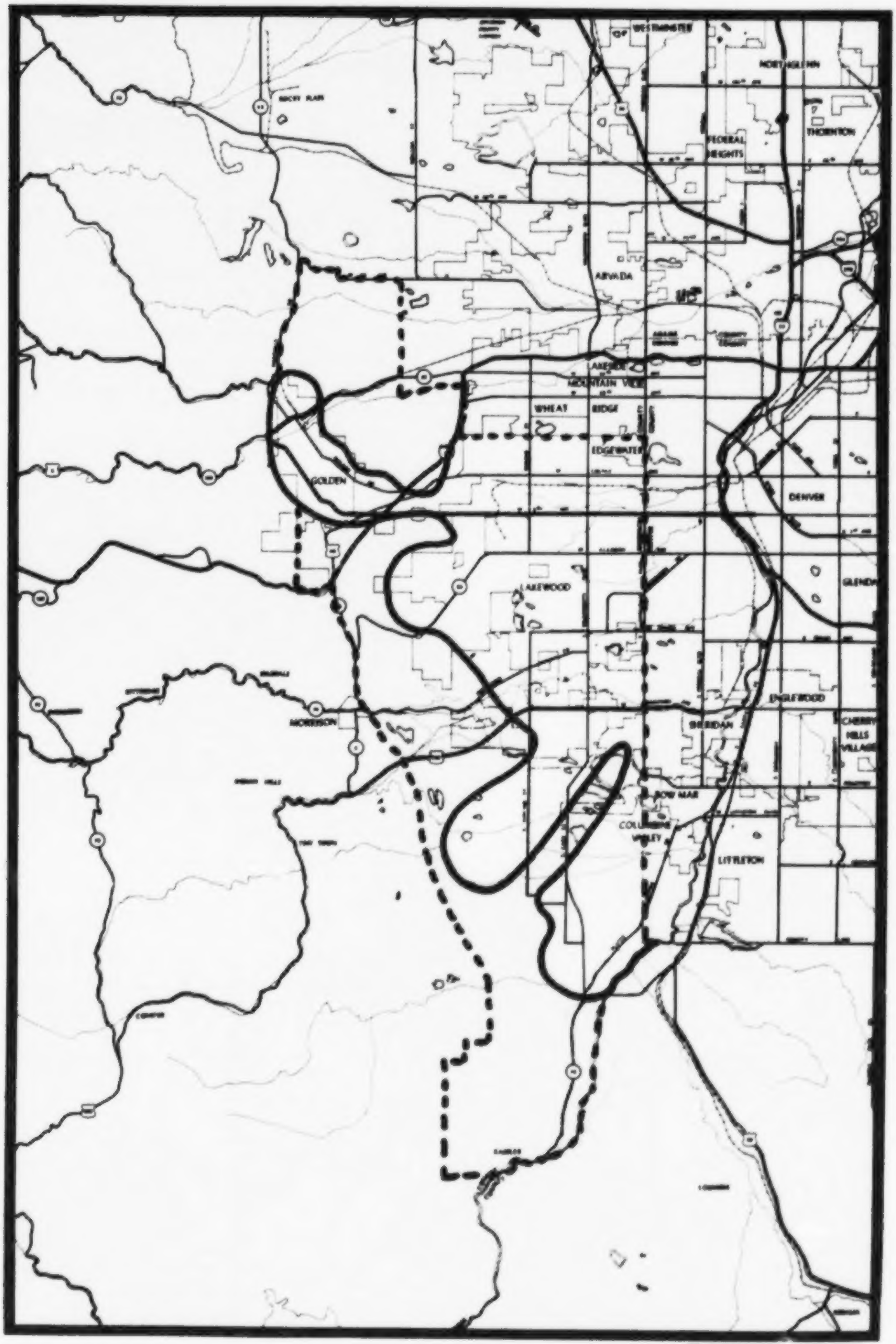
City of Edgewater
City of Golden
City of Lakewood
City of Bow Mar
City/County of Denver

MUNICIPALITIES

FIGURE 25

WATER

Denver Water Board
City of Golden
Alameda
Bear Creek
Clover
Green Mountain
Lakehurst
Meadowbrook
Northside
Platte Canyon
Pleasant View
South Sheridan
Kelton Heights
Ken Caryl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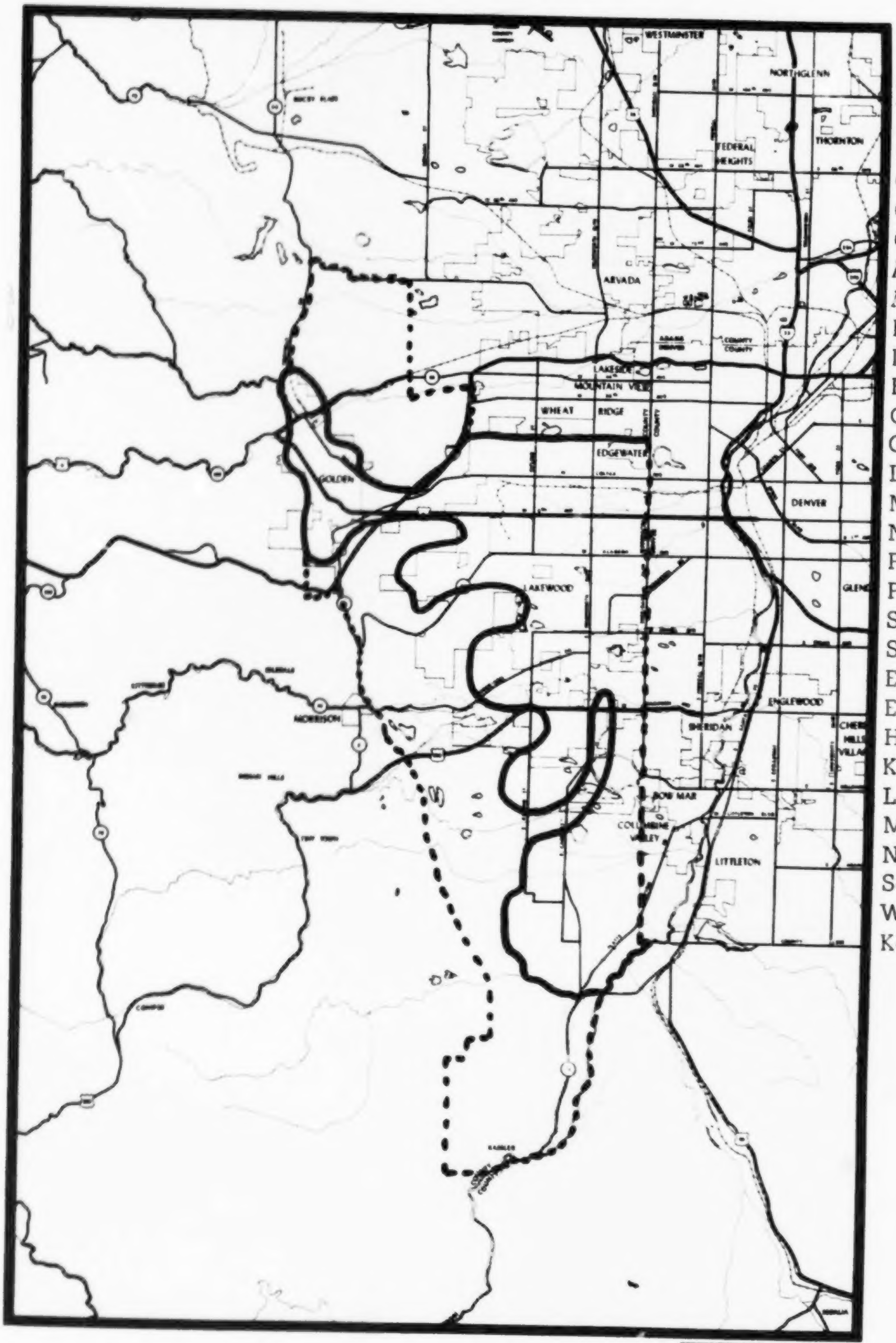
NORTHGLENN
THORNTON
FEDERAL HEIGHTS
ARVADA
LAKESIDE
MOUNTAIN VIEW
WHEAT RIDGE
EDGEWATER
GOLDEN
DENVER
LAKEWOOD
GLENDALE
ENGLEWOOD
SHERIDAN
CHERRY HILLS VILLAGE
MORRISON
BOW MAR
COLUMBINE VALLEY
LITTLETON
SIMPLIFIED BASE MAP

WATER AGENCIES

FIGURE 26


WESTMINSTER
NORTHGLENN
ROCKY FLATS
FEDERAL HEIGHTS
THORNTON
ARVADA
LAKESIDE
MOUNTAIN VIEW
WHEAT RIDGE
EDGEWATER
GOLDEN
DENVER
LAKEWOOD
ENGLEWOOD
SHERIDAN
MORRISON
BOW MAR
COLUMBINE VALLEY
LITTLETON
KASSLER
SIMPLIFIED BASE MAP

WASTEWATER

Metro Sewage District
City of Bow Mar
City of Edgewater
City of Golden
Alameda
Applewood
Bancroft
Bear Creek
Bon Vue
Clover
Green Mountain
Lakehurst
Meadow Brook
Northside
Platte Canyon
Pleasant View
South Sheridan
Southwest Metro
East Jefferson
East Lakewood
Highland Park
Kelton Heights
Lakewood
Mountair
NW Lakewood
South Lakewood
West Lakewood
Ken Caryl

WASTEWATER AGENCIES

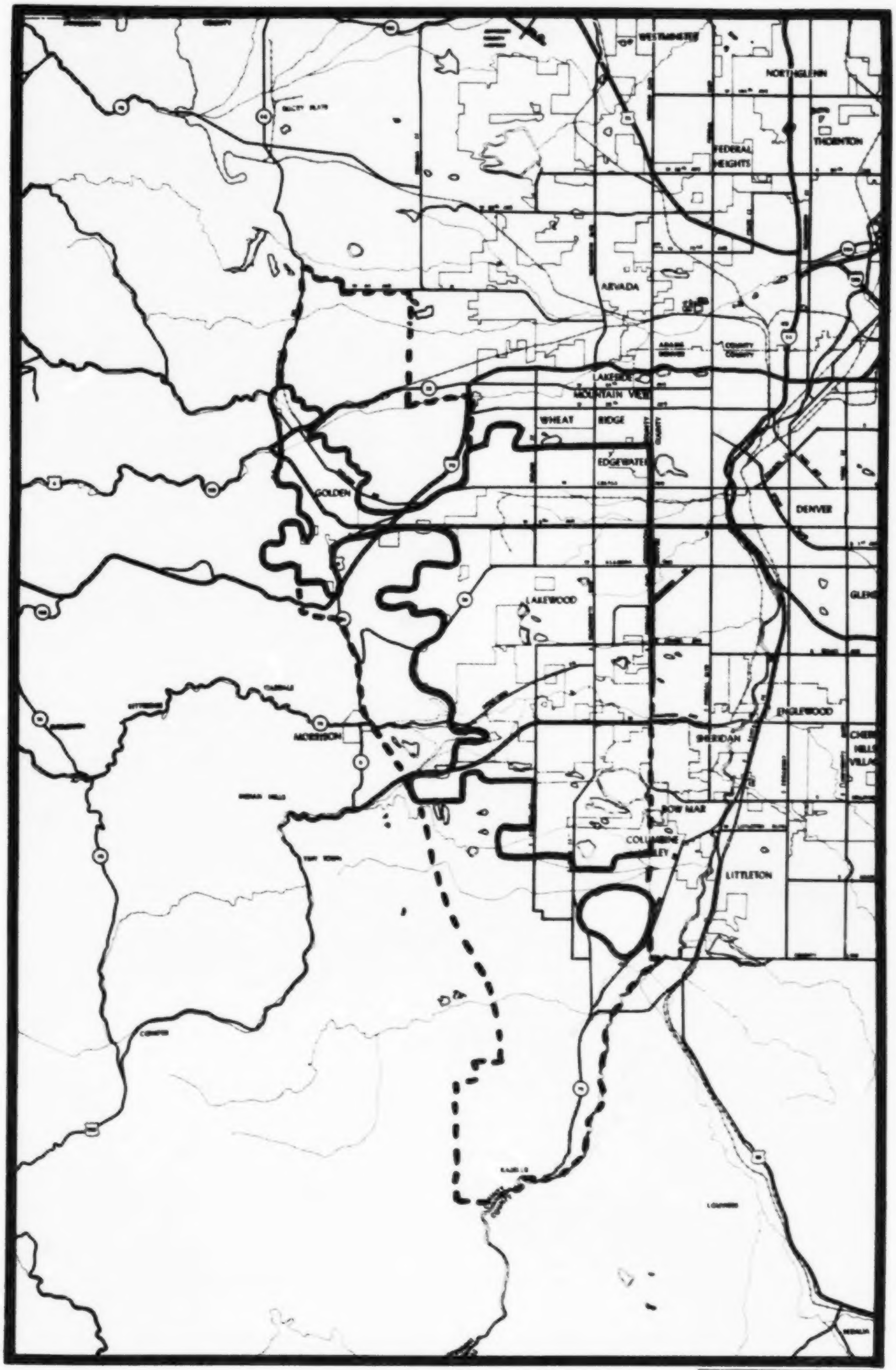

WESTMINSTER
NORTHGLENN
FEDERAL HEIGHTS
THORNTON
ARVADA
LAKESIDE
MOUNTAIN VIEW
WHEAT RIDGE
EDGEWATER
GOLDEN
DENVER
LAKEWOOD
MORRISON
SHERIDAN
ENGLEWOOD
BOW MAR
COLUMBINE VALLEY
LITTLETON
SIMPLIFIED BASE MAP

FIGURE 27

PARKS

City of Edgewater
City of Golden
City of Lakewood
Columbine Knolls
Normandy Estates
Pleasant View
Foothills Metro
City/County of Denver

PARK AGENCIES

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INTERFUNCTIONAL

PRIORITY CRITERIA

WORK SHEET

SOUTH JEFFCO SUB-AREA PROJECTS

PROJECT NUMBER		RE-ORDERING CRITERIA					STAGING CRITERIA		
		FUNCTIONAL NEED	GROWTH (RDP)	RELATED PROJECTS		TOTAL POINTS	FUNDING AVAILABILITY	COMMITMENT CAPABILITY	
Water	37	1	2			3	1977		
	38	2	2			4	1974		
	39	1	2			3	1976		
	40	1	2			3	1975		
	44	2	1			3	1974		
	45	2	1			3	1974		
	46	1	1			2	1974		
	47	0	1			1	1974		
	48	0	1			1	1975		
	71	2	1			3	1974		
	76	1	2			3	1976		
	77	2	2			4	1974		
	79	2	2			4	1974		
	80	2	2			4	1974		
	86	2	2			4	1974		
	88	2	2			4	1974		
	91	1	2			3	1976		
	102	1	1			2	1975		
	105	1	1			2	1976		
	124	0	2			2	1975		
Wastewater	19	1	1			2	1975		
	32	2	2			4	1976		
Drainage	16	0	0			0	1977		
	21	2	2			4	1974		
	41	2	1			3	1976		
	42	2	2			4	1975		
	43	2	1			3	1977		
	46	2	2			4	1976		
	47	1	1			2	1976		
	57	0	1			1	1977		
	58	0	0			0	1978		
	59	0	0			0	1978		
	64	1	1			2	1976		
Parks	120	2	2			4	1975		
	121	2	2			4	1976		
	122	2	2			4	1975		
	123	2	2			4	1975		
	124	1	1			2	1976		
	125	2	1			3	1976		
	126	2	1			3	1976		

INTERFUNCTIONAL

PRIORITY CRITERIA SOUTH JEFFCO SUB-AREA PROJECTS

WORK SHEET

PROJECT NUMBER		RE-ORDERING CRITERIA					STAGING CRITERIA		
		FUNCTIONAL NEED	GROWTH (RDP)	RELATED PROJECTS		TOTAL POINTS	FUNDING AVAILABILITY	COMMITMENT CAPABILITY	
Parks	127	1	0			1	1978		
	128	0	0			0	1979		
	129	0	0			0	1979		
	130	2	1			3	1976		
	131	1	1			2	1976		
	132	0	0			0	1979		
	133	1	0			1	1976		
	134	2	1			3	1975		
	135	0	0			0	1979		
	136	0	0			0	1977		
	137	0	1			1	1976		
	138	1	1			2	1976		
	139	0	2			2	1977		
	140	1	1			2	1976		
	141	1	2			3	1975		
	142	1	0			1	1977		
	143	2	1			3	1975		
	144	2	0			2	1975		
	145	2	1			3	1976		
	146	1	0			1	1975		
	147	0	0			0	1976		
Transportation	79	0	0			0	1974		
	80	0	0			0	1974		
	81	2	1			3	1974		
	82	1	1			2	1974		
	83	2	1			3	1975		
	84	2	1			3	1975		
	85	2	2			4	1974		
	86	2	2			4	1976		
	87	2	2			4	1975		
	88	1	0			1	1978		
	89	0	1			1	1978		
	90	1	0			1	1975		
	91	0	0			0	1976		
	92	1	1			2	1975		
	122	0	1			1	1974		

TABLE 46

INTERFUNCTIONAL

PRIORITY LIST

SOUTH JEFFCO SUB-AREA

Project (Project Number) Agency	Total Cost ($000's)
WATER	
Treatment Plant Expansion-B (38) Golden	432
Green Mountain Storage (77) Denver Water	486
Green Mountain Storage (79) Denver Water	1,012
West Belleview Storage (80) Denver Water	584
West Belleview Pumps (86) Denver Water	584
Green Mountain Pumps (88) Denver Water	457
Storage Tanks (44) Ken-Caryl District	820
Booster Stations (45) Ken-Caryl District	270
J-M Project (71) Denver Water	387
Beaver Brook Reservoir (37) Golden	200
Treatment Plant Expansion-C (39) Golden	206
Southridge Water Tank (40) Golden	125
Southgate Clear Water Storage (76) Denver Water	1,483
Southgate Pumps (91) Denver Water	443
J-M Supply Main (46) Ken-Caryl District	475
Conduit - Ken-Caryl (102) Denver Water	1,679
Conduit - Den-Caryl (105) Denver Water	1,399
Conduit - 6th/Simms (124) Denver Water	1,193
Water Line (47) Ken-Caryl District	192
Water Line (48) Ken-Caryl District	54
Total South Jeffco Water	12,481
WASTEWATER	
Bear Creek Interceptor (32) Metro Sewage	500
Lift Stations (19) Ken-Caryl	46
Total South Jeffco Wastewater	546
DRAINAGE	
20th and Ingalls CD-1 (42) Lakewood	63
Tucker Gulch CL-1 (21) Golden	100
Lakewood Acres CD-2 (46) Lakewood	168
Sloans Lake Basin CD-1 (41) Lakewood	125
McIntyre Gulch CD-2 (43) Lakewood	1,000
Upper Green Mountain CD-2 (47) Lakewood	340
Dutch Creek SS-3 (64) Urban Drainage	77
Bear Creek BR-1 (57) Urban Drainage	54
Turkey Creek BR-1 (59) Urban Drainage	35

Project (Project Number)Agency	Total Cost ($000's)
DRAINAGE (Con't)	
Tucker Gulch CL-1 (16) Urban Drainage	16
Mt. Vernon Creek BR-1 (58) Urban Drainage	24
Total South Jeffco Drainage	2,002
PARKS	
Green Mountain (123) Lakewood	650
Bear Creek (120) Lakewood	1,093
Green Mountain (122) Lakewood	6,000
Bear Creek (121) Lakewood	243
Union Square (141) Lakewood	75
Maple Grove (134) Lakewood	375
13th and Carr (143) Lakewood	146
Belmar (125) Lakewood	1,565
Glennon Heights (130) Lakewood	110
Bear Creek Trail (145) Lakewood	300
Clairfield (125) Lakewood	402
Surfside Pool (139) Lakewood	35
Alameda Trail (144) Lakewood	70
Addenbrooke (124) Lakewood	1,095
Holland-Ernst (131) Lakewood	10
Stober (138) Lakewood	26
Tegeler (140) Lakewood	41
Robins-Dasher (137) Lakewood	11
Kentucky-Nelson (133) Lakewood	101
1st and Teller (127) Lakewood	119
8th and Simms (142) Lakewood	155
Community Center (146) Lakewood	75
Community Center (147) Lakewood	80
County Village (128) Lakewood	31
Florida-Wadsworth (129) Lakewood	21
Hutchinson (132) Lakewood	31
Molhoim School (135) Lakewood	68
Morse (136) Lakewood	377
Total South Jeffco Parks	13,305
TRANSPORTATION	
Kipling (85) Lakewood	3,000
Kipling (86) Lakewood	4,936
Mississippi (87) Lakewood	1,210
Jewell (84) Lakewood	28
Jewell (83) Lakewood	45
Washington (81) Golden	17
Simms (92) Lakewood	350
Jewell (82) Lakewood	1,600
Garrison (89) Lakewood	550
Yale (88) Lakewood	735

Project (Project Number) Agency	Total Cost ($000's)
TRANSPORTATION (Con't)	
Old Golden Road (122) Jefferson County	320
Garrison (90) Lakewood	1,350
Mississippi (91) Lakewood	155
20th Avenue (79) Edgewater	100
Jackson (80) Golden	5
Total South Jeffco Transportation	14,401
TOTAL SOUTH JEFFCO SUB-AREA	42,735

TABLE 47

CAPITAL IMPROVEMENT SUMMARY
(000'S)

SOUTH JEFFCO SUB AREA PROJECTS		FUNCTIONAL AREA Water JURISDICTION South Jeffco Sub-Area					
PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
Water Projects							
Treatment Plant Expansion - B (38) Golden	432						432
Green Mountain Storage (77) Denver Water	162	324					486
Green Mountain Storage (79) Denver Water	65		109	579	259		1,012
West Belleview Storage (80) Denver Water	147	284	153				584
West Belleview Pumps (86) Denver Water	37	394	153				584
Green Mountain Pumps (88) Denver Water	152	305					457
Storage Tanks (44) Den-Caryl District	500	245	75				820
Booster Stations (45) Ken-Caryl District	135	85	50				270
J-M Project (71) Denver Water	63	214	110				387
Beaver Brook Reservoir (37) Golden				100	100		200
Treatment Plant Expansion - C (39) Golden			103	103			206
Southridge Water Tank (40) Golden		125					125
Southgate Clear Water Storage (76) Denver			172	906	405		1,483
Southgate Pumps (91) Denver Water			51	271	121		433
J-M Supply Main (46) Den-Caryl District	475						475
Conduit - Ken-Caryl (102) Denver Water		34	845	800			1,679
Conduit - Den-Caryl (105) Denver Water			29	370	1,000		1,399
Conduit - 6th/Simms (124) Denver Water		21	72	1,100			1,193
Water Line (47) Ken-Caryl District	192						192
Water Line (48) Ken-Caryl District		54					54
Total South Jeffco Water	2,360	2,085	1,922	4,229	1,885		12,481
Water Agencies							
Golden	432	125	103	203	100		963
Denver Water Board	626	1,576	1,694	4,026	1,785		9,707
Ken-Caryl	1,302	384	125				1,811
Total South Jeffco Water	2,360	2,085	1,922	4,229	1,885		12,481

TABLE 48

CAPITAL IMPROVEMENT SUMMARY
(000's)

SOUTH JEFFCO SUB-AREA PROJECTS		**FUNCTIONAL AREA** Wastewater **JURISDICTION** South Jeffco Sub-Area					
PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
Wastewater Projects							
Bear Creek Interceptor (32) Metro Sewage			160	340			500
Lift Stations (19) Ken Caryl		28	18				46
Total South Jeffco Wastewater		28	178	340			546
Wastewater Agencies							
Metro Sewage			160	340			500
Ken Caryl		28	18				46
Total South Jeffco Wastewater		28	178	340			546

TABLE 49

CAPITAL IMPROVEMENT SUMMARY
(000'S)

SOUTH JEFFCO SUB-AREA PROJECTS

FUNCTIONAL AREA Drainage

JURISDICTION South Jeffco Sub-Area

PROJECTS	1974	1975	1976	1977	1978	1979	ESTIMATED TOTAL COST
Drainage Projects							
20th and Ingalls CD-1 (42) Lakewood		8	55				63
Tucker Gulch CL-1 (21) Golden	20	20	20	20	20		100
Lakewood Acres CD-2 (46) Lakewood		168					168
Sloans Lake Basin CD-1 (41) Lakewood			25	50	50		125
McIntyre Gulch CD-2 (43) Lakewood				75	425	500	1,000
Upper Green Mountain CD-2 (47) Lakewood			10	110	110	110	340
Dutch Creek SS-3 (64) Urban Drainage			77				77
Bear Creek BR-1 (57) Urban Drainage				54			54
Turkey Creek BR-1 (59) Urban Drainage					35		35
Tucker Gulch CL-1 (16) Urban Drainage				16			16
Mt. Vernon Creek BR-1 (58) Urban Drainage					24		24
Total South Jeffco Drainage	20	196	187	325	664	610	2,002
Drainage Agencies							
Golden	20	20	20	20	20		100
Lakewood		176	90	235	585	610	1,696
Urban Drainage			77	70	59		206
Total South Jeffco Drainage	20	196	187	325	664	610	2,002

CAPITAL IMPROVEMENT SUMMARY

([illegible])

SOUTH JEFFCO SUB-AREA PROJECTS	**FUNCTIONAL AREA** Parks						
	JURISDICTION South Jeffco Sub-Area						
PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
Parks Projects							
Green Mountain (123) Lakewood		150	250	250			650
Bear Creek (120) Lakewood		647	149	149	149		1,093
Green Mountain (122) Lakewood		1,000	1,000	1,000	1,000	2,000	6,000
Bear Creek (121) Lakewood			93	150			243
Union Square (141) Lakewood		45	30				75
Maple Grove (134) Lakewood		375					375
13th and Carr (143) Lakewood		12	12	16	53	53	146
Belmar (125) Lakewood			650	305	305	305	1,565
Glennon Heights (130) Lakewood			110				110
Bear Creek Trail (145) Lakewood			75	70	5	150	300
Clairfield (126) Lakewood			402				402
Surfside Pool (139) Lakewood				35			35
Alameda Trail (144) Lakewood		70					70
Addenbrooke (124) Lakewood			380	255	255	255	1,095
Holland-Ernst (131) Lakewood			10				10
Stober (138) Lakewood			26				26
Tegeler (140) Lakewood			41				41
Robins-Dasher (137) Lakewood			11				11
Kentucky-Nelson (133) Lakewood			101				101
1st and Teller (127) Lakewood					25	94	119
8th and Simms (142) Lakewood				5	75	75	155
Community Center (146) Lakewood		50	25				75
Community Center (147) Lakewood			80				80
County Village (128) Lakewood						31	31
Florida-Wadsworth (129) Lakewood						21	21
Hutchinson (132) Lakewood						31	31

TABLE 50

CAPITAL IMPROVEMENT SUMMARY
(000'S)

SOUTH JEFFCO SUB-AREA PROJECTS

FUNCTIONAL AREA Parks

JURISDICTION South Jeffco Sub-Area

PROJECTS	1974	1975	1976	1977	1978	1979	ESTIMATED TOTAL COST
Parks Projects							
Molholm School (135) Lakewood							
Morse (136) Lakewood						68	68
Total South Jeffco Parks		2,349	3,445	2,237	2,067	3,208	13,305
Parks Agencies							
Lakewood		2,349	3,445	2,237	2,067	3,208	13,305

CAPITAL IMPROVEMENT SUMMARY
(000's)

SOUTH JEFFCO SUB-AREA PROJECTS		**FUNCTIONAL AREA** Transportation **JURISDICTION** South Jeffco Sub-Area					
PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
Transportation Projects							
Kipling (85) Lakewood	400	2,100	500				3,000
Kipling (86) Lakewood			300	1,150	3,486		4,936
Mississippi (87) Lakewood		460	750				1,210
Jewell (84) Lakewood		28					28
Jewell (83) Lakewood		45					45
Washington (81) Golden	17						17
Simms (92) Lakewood	350						350
Jewell (82) Lakewood			100	700	600	200	1,600
Garrison (89) Lakewood					50	500	550
Yale (88) Lakewood					165	570	735
Old Golden Road (122) Jefferson County	320						320
Garrison (90) Lakewood		150	600			600	1,350
Mississippi (91) Lakewood			10	145			155
20th Avenue (79) Edgewater	100						100
Jackson (80) Golden	5						5
Total South Jeffco Transportation	1,192	2,783	2,260	1,995	4,301	1,870	14,401
Transportation Agencies							
Edgewater	100						100
Golden	22						22
Lakewood	750	2,783	2,260	1,995	4,301	1,870	13,959
Jefferson County	320						320
Total South Jeffco Transportation	1,192	2,783	2,260	1,995	4,301	1,870	14,401

TABLE 51

CAPITAL IMPROVEMENT SUMMARY
(000'S)

TABLE 52

SOUTH JEFFCO SUB-AREA PROJECTS	FUNCTIONAL AREA Total					
	JURISDICTION Agency Summary					
PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
Municipalities							
Edgewater	100						100
Golden	474	145	123	223	120		1,085
Lakewood	750	5,308	5,795	4,467	6,953	5,688	28,960
Total Municipalities	1,324	5,453	5,918	4,690	7,073	5,688	30,145(71%)
Counties							
Jefferson County	320						320
State							
Colorado Department of Highways							
Division of Parks and Outdoor Recreation							
Total State							
Regional Special Districts							
Denver Water Board	626	1,576	1,694	4,026	1,785		9,707
Metropolitan Sewer District			160	340			500
Urban Drainage District			77	70	59		206
Regional Transportation District							
Total Regional Special Districts	626	1,576	1,931	4,436	1,844		10,413(24%)
Special Authorities							
Lakewood Housing Authority							

CAPITAL IMPROVEMENT SUMMARY
(000's)

SOUTH JEFFCO SUB-AREA		**FUNCTIONAL AREA** Total **JURISDICTION** Agency Summary					
PROJECTS	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**ESTIMATED TOTAL COST**
Local Special Districts							
Water and Sanitation Districts	1,302	412	143				1,857(4%)
Water Districts							
Sanitation Districts							
Park and Recreation Districts							
Fire Protection Districts							
School Districts							
Total Local Special Districts							
Total South Jeffco Sub-Area Projects	3,572	7,441	7,992	9,126	8,917	5,688	42,735(100%)